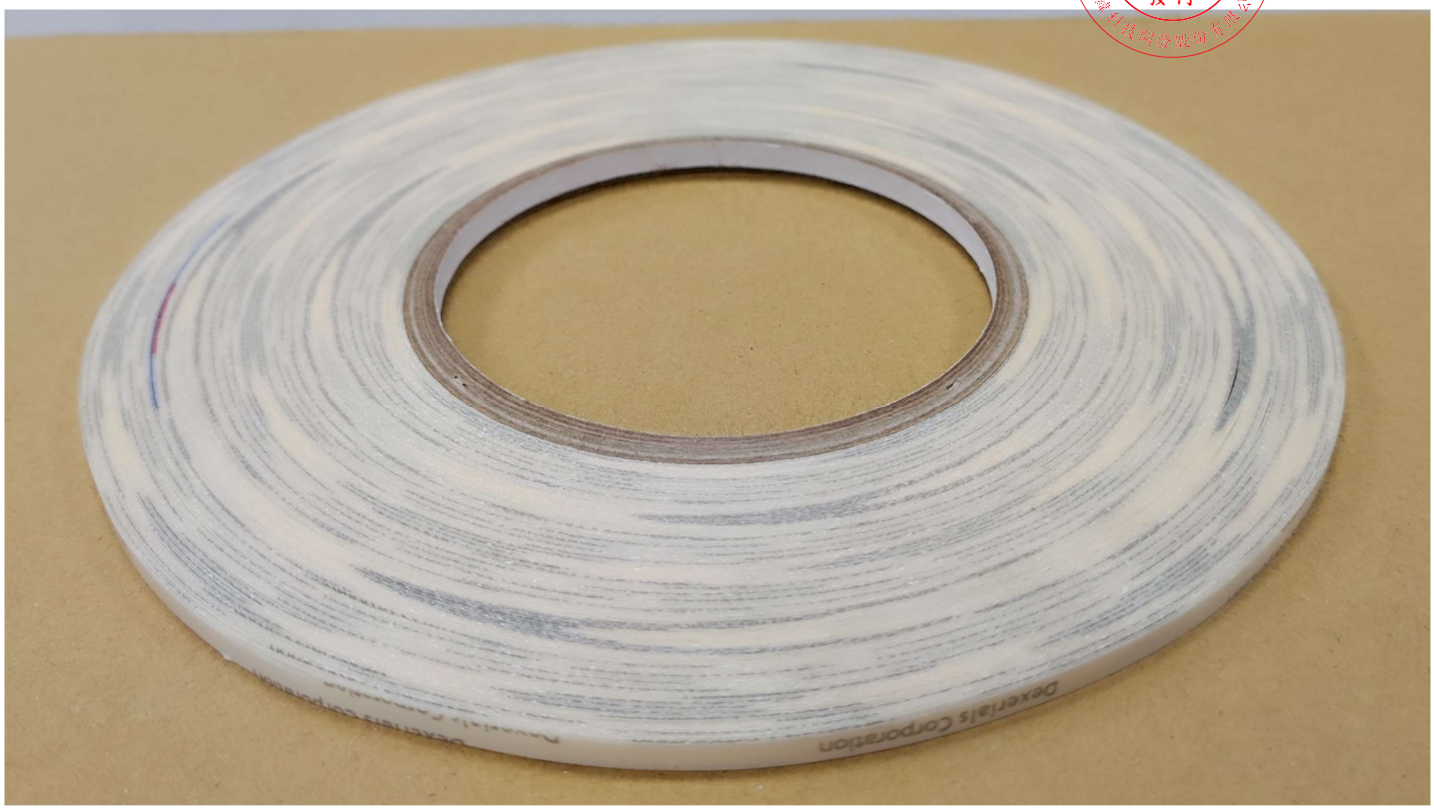



開發部
2023.06.16
發行



# 承　　認　　書

## SPECIFICATION　FOR　APPROVAL

客戶:鈺緯科技開發股份有限公司

品名:T4000

規格:0.16T*4mm*50M

料號:3N12D04001A (N0008)

開發部
2023.06.16
發行
鈺緯科技開發股份有限公司

| 主　管 | 審　查 | 製　作 |
|---|---|---|
| 游鈺衡 | 游鈺崧 | 王瀞融 |


俐元企業股份有限公司

俐誠企業股份有限公司

LI YUN　ENTERPRISE CO.LTD.

LI CHENG ENTERPRISE CO.LTD.

地址:新北市樹林區三龍街 20-1 號

電話:(02)8688-8680　　傳真:(02)8688-8678


中　華　民　國 112 年 06 月 08 日

# 俐元企業股份有限公司
# 俐誠企業股份有限公司

## 成品出廠檢驗表

表單編號：FM-42A

| 客戶名稱 | 鈺緯科技開發股份有限公司 | 訂單號碼 | | | | 交貨數量 | | |
|---|---|---|---|---|---|---|---|---|
| 料號 | 3N12D04001A (N0008) | 品名規格 | T4000<br>0.16T*4mm*50M | | | 檢驗日期 | | |
| 序號 | 規　格 | 檢　驗　值 | | | | | 檢驗結果 | |
| | 依客戶圖面檢驗 | 1 | 2 | 3 | 4 | 5 | OK | NG |
| 1 | 0.16 T± 0.05 | | | | | | | |
| 2 | 4 ±0.3 | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |

主管:　游閔智　　品管組長:　黃惠珍　　品檢員:　林素后

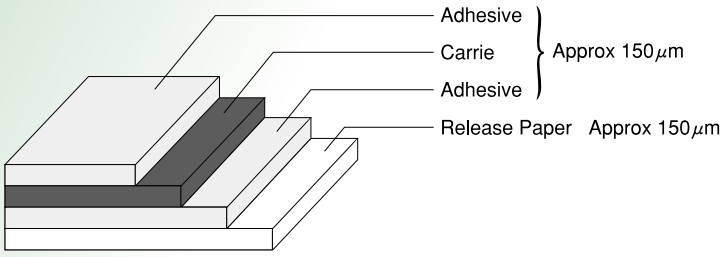
SONY

Technical Data Sheet

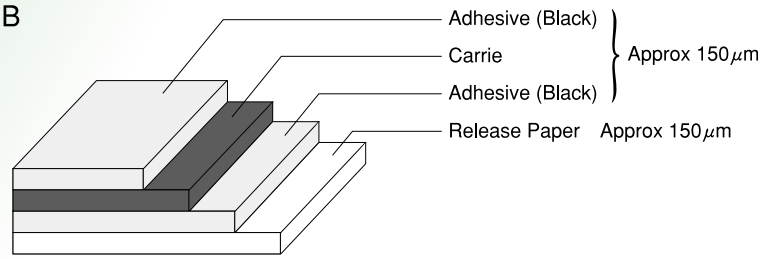
# Double-Faced Adhesive Tape
# 「T4000」

## STRUCTURE

T4000




T4000B




## FEATURES

T4000 is a double-faced adhesive tape developed for the requirement of strong and permanent bonding. It is a highly selected double-faced adhesive tape with outstanding reliability, having high low temperature adhesion.

① Excellent in thermal holding strength.
② Excellent in low temperature adhesion.
③ High bonding strength in the widest temperature range.
④ Outstanding reliability and durability.

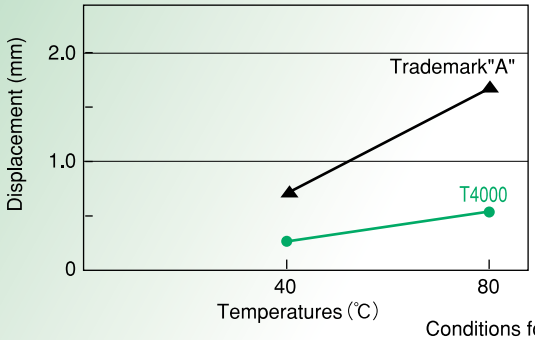
## APPLICATIONS

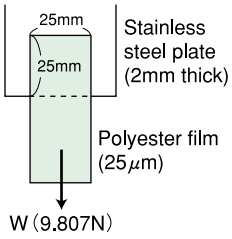
T4000 is most suitable for the adhesion to surface decorative sheet, rating plate and escutcheon, etc. made of metal and plastic material for the automobiles and household electric appliances. T4000 is recommendable for use as a double-faced permanent adhesive tape for various substrates.

## SPECIFICATIONS

### 1.Holding strength at elevated temperatures

T4000 demonstrates an excellent holding strength even under severe conditions.

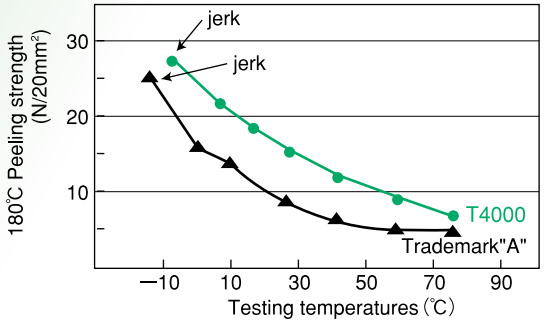



Conditions for preparing test pieces
Temperature : 20℃
Pressure : 20N/cm²(one stroke)
Conditions for test peeling
60minutes : 9,80N of loading

### 2.Temperature change of 180° peeling strength

T4000 Provides a high bonding strength at various temperatures.




Substrate : Polyester film (25μm)
/stainless steel plate (2mm thick)
Conditions for preparing test pieces
Temperature : 20℃
Pressure : 20N/cm²(one stroke)
Peeling speed : 300mm/min.

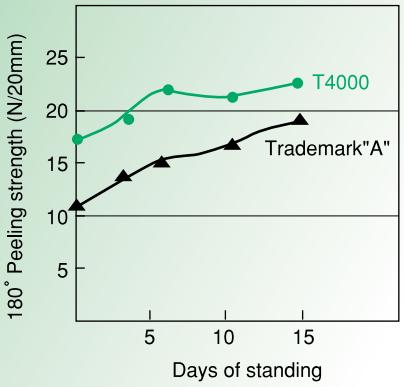
### 3.Peeling strength after aging

T4000 has excellent thermal aging resistance, and high resistance to moisture, water, oil and weather.

Substrate : Polyester film (25μm)/stainless steel plate (2mm thick)
Conditions for preparing test pieces :
Temperature : 20℃
Pressure : 20N/cm²(one stroke)
Test peeling speed : 300m/min.

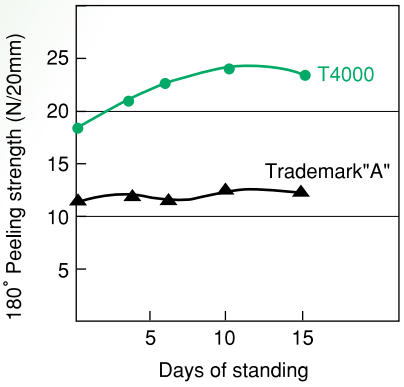
## ■THERMAL AGING

Standing test in the atmosphere



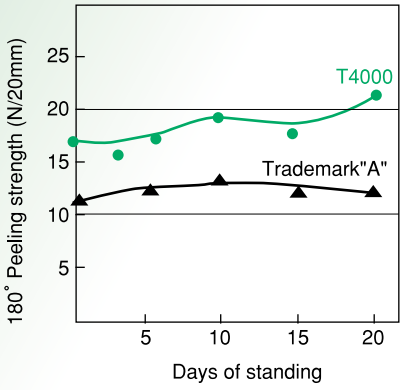

## ■MOISTURE RESISTANCE

Standing test in the atmosphere of 50℃ and relative humidity of 90%



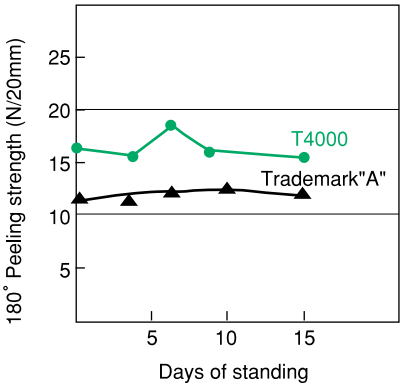

## ■WATER RESISTANCE

Standing test in water at 40℃

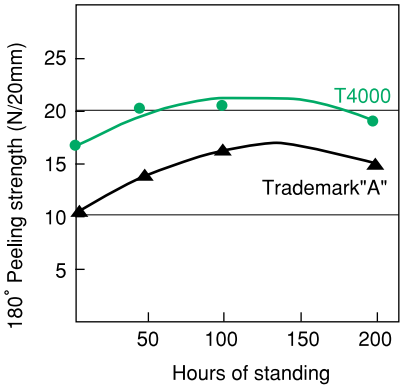



## ■OIL RESISTANCE

Standing test in machine oil at 40℃




## ■WEATHERING



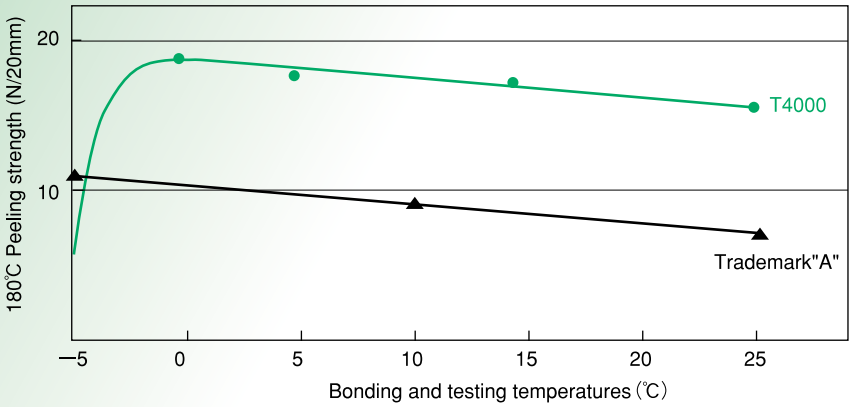
SONY

Technical Data Sheet

## WORKABILITY

### Low-temperature adhesion

T4000 provides high adhesion even in the bonding work at low temperatures.




CAUTION:While this report is based on our company's reliable testing, this does not imply that the effects noted herein are guaranteed.
The user is requested to use this product at his own risk after thorough study of the purposes for which the product is designed and the conditions under which it are used.

**Sony Chemicals Corporation**
http://www.scc.sony.co.jp/

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1-11-2,Osaki,Shinagawa-ku,Tokyo,141-0032 Japan
Telephone:+81-3-5435-3946

Sony Chemicals Corporation of America 1001 Technology Drive, Mount Pleasant, Pennsylvania 15666-1766 Tel.1-724-696-7500 http://www.sonychemicals.com

Sony Chemicals Singapore Pte.Ltd. 83Clemenceau Avenue #10-03/04 UE Square Singapore 239920 Tel.65-836-1181

Sony Chemicals Europe B.V. Diamantlaan 27 2132 WV Hoofddorp The Netherlands Tel.31-23-565-0606

# UL認定製品群(C&A事業部)

2006.10.4

| File No. | E178432 | E98013 | E100383 (E63260) | MH15431 | MH15485 |
|---|---|---|---|---|---|
| Category Name | Insulating Tape – Component | Polymeric Materials – Filament-wound Tubing, Industrial Laminates, Vulcanized Fiber, and Materials for Use inFabricating Recognized Printed Wiring Boards – | Plastics – Component | Marking and Labeling System Materials – Component | Polymeric Adhesive Systems, Electrical Equipment – Component |
| Product name | CU7635# | CA##### | SC121 | G4000 | SC108 |
| | CU7636# | CF100 | SC12N | G90XX$$ | SC608LVZ |
| | CU7638# | CF120 | SC608LVZ | G9010 | SC608MVZ |
| | | CF150 | SC608MVZ | G91XX$$ | SC608Z |
| | | CF180 | SC608Z | G9303S | SC608Z2 |
| | | CF-2-0311 | SC901 | G99XX$$ | SC608MVZ2 |
| | | CF-2-0321 | SC950 | NP203 | SC608LVZ2 |
| | | CF3-0105 | SC951 | NP203W | |
| | | CF3-0105W | TC7901N | NP303 | |
| | | CF3-0107 | TC7902N | NP303W | |
| | | CF3-0107W | TC7905N | T3500 | |
| | | CF3-0110 | TC7907N | T3500S | |
| | | CF3-0110W | TC7908N | T3500SW | |
| | | CF3-0112 | TC7909N | T3500W | |
| | | CF3-0112W | TC7911 | T4000 | |
| | | CF3-0115 | TC7945N | T4000B | |
| | | CF3-0115W | UT1340 | T4000BW | |
| | | CF3-0118 | UT1515 | T4000W | |
| | | CF3-0118W | UT3370 | T4410 | |
| | | CF3-0305 | F2100 | T4410W | |
| | | CF3-0305W | UT17XX | T4411 | |
| | | CF3-0307 | E3030 | T4411W | |
| | | CF3-0307W | E3050 | T4500B | |
| | | CF3-0310 | SC608Z2 | T4500BW | |
| | | CF3-0310W | SC608MVZ2 | T4700M | |
| | | CF3-0312 | SC68LVZ2 | T4720 | |
| | | CF3-0312W | E7150K | T4900 | |
| | | CF3-0315 | E2130 | T4900W | |
| | | CF3-0315W | MNZ-ECO | | |
| | | CF3-0318 | MGZ-ECO | | |
| | | CF3-0318W | E2002S | | |
| | | CF50 | E2150 | | |
| | | CF70 | E7200K | | |
| | | CFL-2 | E7300K | | |
| | | CFM2FR | E2130 | | |
| | | CFM-2TFR | UT1540 | | |
| | | CK1-0102 | | | |
| | | CK1-0102K | | | |
| | | CK1-0102KW | | | |
| | | CK1-0102W | | | |
| | | CK1-0105 | | | |
| | | CK1-0105K | | | |
| | | CK1-0105KW | | | |
| | | CK1-0105W | | | |
| | | CK1-0302 | | | |
| | | CK1-0302K | | | |
| | | CK1-0302KW | | | |
| | | CK1-0302W | | | |
| | | CK1-0305 | | | |
| | | CK1-0305K | | | |
| | | CK1-0305KW | | | |
| | | CK1-0305W | | | |
| | | CK6 | | | |
| | | CK6K | | | |
| | | CK7Kシリーズ | | | |
| | | CK7シリーズ | | | |
| | | CL1-0102 | | | |
| | | CL1-0102W | | | |
| | | CL2-0102 | | | |
| | | CL2-0102W | | | |
| | | CL2-0105 | | | |
| | | CL2-0105W | | | |
| | | CL2-0302 | | | |
| | | CL2-0302W | | | |
| | | CL2-0305 | | | |
| | | CL2-0305W | | | |
| | | CL6 | | | |
| | | CM2-0302 | | | |
| | | CM2-0302T | | | |
| | | HF##### | | | |

# SAFETY DATA SHEET

Date Revised (7) : 11/06/2013
Date Prepared : 10/07/1999

## *SECTION 1.* CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name : **T4000 (Pressure sensitive double sided tape)**
Manufacturer : Dexerials Corporation
Address : 12-3 Satsuki-cho, Kanuma-shi, Tochigi, 322-8502 Japan

| Phone | Fax |
|---|---|
| +81-289-76-0225 | +81-289-76-0299 |

Emergency phone
+81-289-76-0499

## *SECTION 2.* COMPOSITION / INFORMATION ON INGREDIENTS

Structure (Thickness and wt. % of each structure)

| | | |
|---|---|---|
| 1. Pressure sensitive adhesive | 150 µm | (41 %) |
| 2. Base material | ※1 | ( 7 %) |
| 3. Release liner | 145 µm | (52 %) |

(※1:be included in adhesive layer)

Components (% Chemical component by WT.)

1. Pressure sensitive adhesive

| Non-hazardous composition | CAS # | Contents |
|---|---|---|
| Tackifier | Trade Secret | 20～30 % |
| Acrylic resin | Trade Secret | 70～80 % |

2. Base material

| Non-hazardous composition | CAS # | Contents |
|---|---|---|
| Tissue Paper | N/A | 100 % |

3. Release liner

| Non-hazardous composition | CAS # | Contents |
|---|---|---|
| Polyethylene laminated paper coated with silicone release agent | N/A | 100 % |

(Refer to section 8)

## *SECTION 3.* HAZARDS IDENTIFICATION

Emergency overview

There is no special hazard in the normal use of this product.
Contact with adhesive face may cause irritation.
It is recommended to wear suitable protective gloves.
Ventilate if smells at working area.

Potential health effects

Skin/Eyes contact

Direct contact may cause irritation or sensitization.

Ingestion/Inhalation

Breathe in smell of product may cause headache, nausea and irritation to respiratory system.

## *SECTION 4.* FIRST AID MEASURES

Inhalation

Remove to fresh air if feel ill by smell of product.
If the condition of a disease continues or getting worse, seek medical attention.

Eye contact

Rinse immediately with plenty of water.
If irritation persists, seek medical attention.

Skin contact

Remove it gently then rinse with water.
If irritation persists, seek medical attention.

Ingestion

As supplied, product is a solid material and would not in practice, be ingested.

## *SECTION 5.* FIRE-FIGHTING MEASURES

Flash point and auto ignition temperature

| | | |
|---|---|---|
| Flash point | : | No data. |
| Autoignition temperature | : | No data. |

Extinguish media

Water spray, carbon dioxide, dry chemical powder or foam

Fire fighting instruction

Wear positive pressure, self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Evacuate area and fight fire from a safe distance.

## *SECTION 6.* ACCIDENTAL RELEASE MEASURES

As supplied, product is a solid material and would not in practice, be released.

## *SECTION 7.* HANDLING AND STORAGE

Handling

Protection gear may not be required in particular in the normal use of this product.
It is recommended to wear suitable protective gloves in the case of direct contact with the adhesive face.
Handle at well-ventilated place so as not to be inhaled the smell of product.
It is recommended to install the appropriate equipment of ventilation when the smell of product is spread at working area.

Storage

Store in a cool place.

## *SECTION 8.* EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering controls

Suitable ventilating equipment should be installed at working area if smells hardly.

Personal protection

| | | |
|---|---|---|
| Protective gloves | : | Wear impervious gloves (polyethylene, nitrile rubber) when contact with the adhesive face.. |
| Protective glasses | : | Not required in particular. |
| Protective clothes | : | Not required in particular. |

Exposure guideline

| | | |
|---|---|---|
| Tackifier | : | Not established by OSHA and ACGIH. |

## *SECTION 9.* PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Appearance | : | Adhesive tape |
| Odor | : | Slight |
| Boiling point | : | Not applicable |
| Vapor pressure | : | Not applicable |
| Melting point | : | Not determined |
| Solubility in water | : | Insoluble in water |
| Specific gravity | : | Approx. 1.0 |

## *SECTION 10.* STABILITY AND REACTIVITY

Stability

Stable under normal handling conditions.

Incompatibility

Strong acids and strong oxidizing agents

Hazardous decomposition products

Carbon monoxide, carbon dioxide, a bit of alkylphenol and formalin (possibility)

Hazardous polymerization

It will not occur.

## *SECTION 11.* TOXICOLOGICAL INFORMATION

No information and data as product

As Tackifier

Toxicity data

$LD_{50}$ > 2000 mg/Kg

## *SECTION 12.* ECOLOGICAL INFORMATION

Ecotoxicological information

Unknown

Chemical fate information

Unknown

## *SECTION 13.* DISPOSAL CONSIDERATIONS

Disposal should be made in accordance with federal, state and local regulations.

## *SECTION 14.* TRANSPORT INFORMATION

| | | |
|---|---|---|
| UN No. | : | Not listed. |
| International classification | : | Not relevant. |

## *SECTION 15.* REGULATORY INFORMATION

Export control law in Japan: Not applicable both List and Catch-all regulations.

Other regulatory information

We are not able to check up the regulatory information in regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

## *SECTION 16.* OTHER INFORMATION

Reference

SDS of each component issued by material makers.

The information herein is the best of our knowledge and is only related to this specific product. No warranty, either expressed or implied, is made with respect to such information. The recommended handling procedures are believed to be generally applicable. However, it is user's responsibility to review these recommendations in the specific content of the intended use. We reserve the right to revise this SDS as new information become available. It is recommended to ask for the latest version to our sales division.

The end of SDS

# Test Report

No.: ETR22604423 Date: 01-Jul-2022 

DEXERIALS CORPORATION
1724 SHIMOTSUBOYAMA, SHIMOTSUKE-SHI, TOCHIGI 323-0194, JAPAN

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

| | | |
|---|---|---|
| Sample Name | : | ADHESIVE |
| Style/Item No. | : | T4000 SERIES(T4000,T4000W) |
| Lot No. | : | 2B02 |
| The Testing Sample | : | T4000 |

==========

| | | |
|---|---|---|
| Sample Receiving Date | : | 24-Jun-2022 |
| Testing Period | : | 24-Jun-2022 to 01-Jul-2022 |

**Test Requested** :

(1) As specified by client, with reference to RoHS Directive 2011/65/EU Annex II to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs contents in the submitted sample(s).

(2) 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 Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei

PIN CODE: 7926DDB4

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DEXERIALS CORPORATION
1724 SHIMOTSUBOYAMA, SHIMOTSUKE-SHI, TOCHIGI 323-0194, JAPAN

**Test Part Description**

No.1 : SEMI-TRANSPARENT DOUBLE SIDED ADHESIVE (EXCLUDING THE RELEASE LINER)

**Test Result(s)**

| Test Item(s) | Method | Unit | MDL | Result |
|---|---|---|---|---|
| | | | | No.1 |
| Cadmium (Cd) (CAS No.: 7440-43-9) | With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES. | mg/kg | 2 | n.d. |
| Lead (Pb) (CAS No.: 7439-92-1) | | mg/kg | 2 | n.d. |
| Mercury (Hg) (CAS No.: 7439-97-6) | With reference to IEC 62321-4: 2013+ AMD1: 2017, analysis was performed by ICP-OES. | mg/kg | 2 | n.d. |
| Hexavalent Chromium Cr(VI) (CAS No.: 18540-29-9) | With reference to IEC 62321-7-2: 2017, analysis was performed by UV-VIS. | mg/kg | 8 | n.d. |
| Monobromobiphenyl | With reference to IEC 62321-6: 2015, analysis was performed by GC/MS. | 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** | | mg/kg | - | n.d. |
| Monobromodiphenyl ether | With reference to IEC 62321-6: 2015, 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 | | 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. |

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DEXERIALS CORPORATION
1724 SHIMOTSUBOYAMA, SHIMOTSUKE-SHI, TOCHIGI 323-0194, JAPAN

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

**Note：**

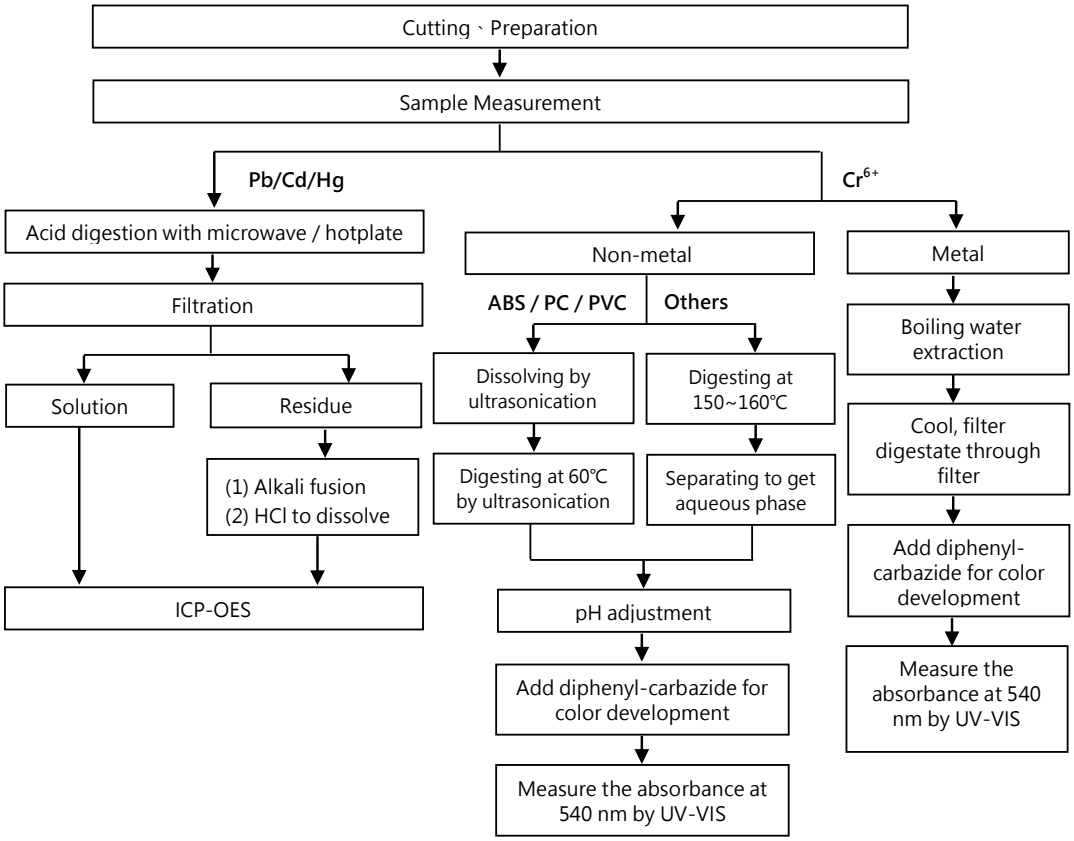
1. mg/kg = ppm；0.1wt% = 0.1% = 1000ppm
2. MDL = Method Detection Limit
3. n.d. = Not Detected ( Less than MDL)
4. "-" = Not Regulated

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1724 SHIMOTSUBOYAMA, SHIMOTSUKE-SHI, TOCHIGI 323-0194, JAPAN

## Analytical flow chart of Heavy Metal

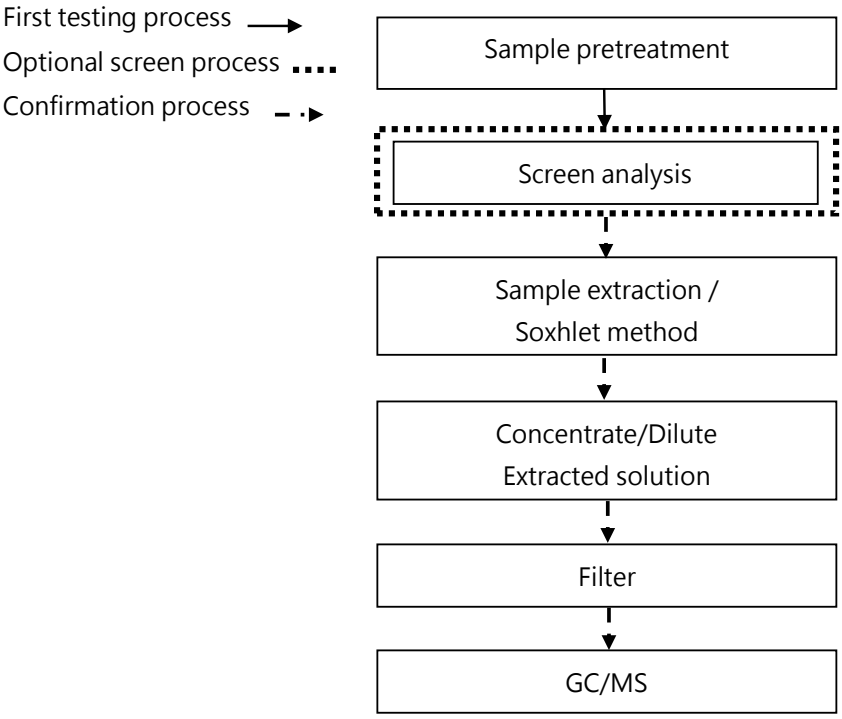
These samples were dissolved totally by pre-conditioning method according to below flow chart.
( $Cr^{6+}$ test method excluded )




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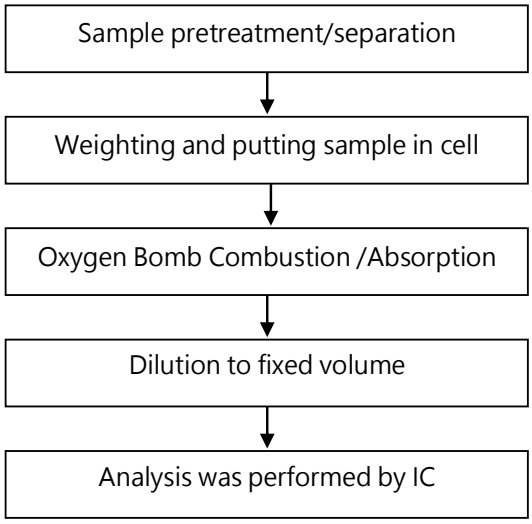
**Analytical flow chart – PBBs / PBDEs**




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**Analytical flow chart of Halogen**

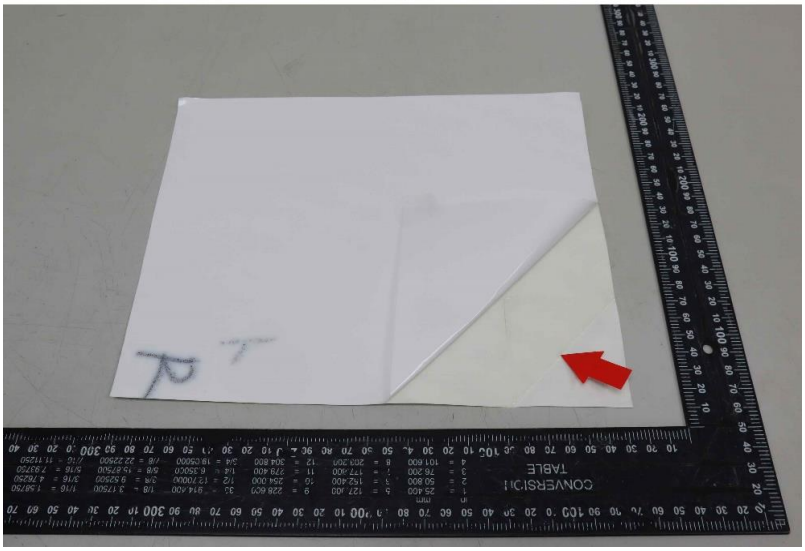



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*** The tested sample / part is marked by an arrow if it's shown on the photo. ***

# ETR22604423



** End of Report **

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# Test Report

No.: ETR22604424 Date: 01-Jul-2022 

DEXERIALS CORPORATION
1724 SHIMOTSUBOYAMA, SHIMOTSUKE-SHI, TOCHIGI 323-0194, JAPAN

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

| | | |
|---|---|---|
| Sample Name | : | ADHESIVE |
| Style/Item No. | : | T4000 SERIES(T4000,T4000W) |
| Lot No. | : | 2B02 |
| The Testing Sample | : | T4000 |

==========

| | | |
|---|---|---|
| Sample Receiving Date | : | 24-Jun-2022 |
| Testing Period | : | 24-Jun-2022 to 01-Jul-2022 |

**Test Requested** :

(1) As specified by client, with reference to RoHS 2011/65/EU Annex II and amending Directive (EU) 2015/863 to determine DBP, BBP, DEHP, DIBP contents in the submitted sample(s).

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

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

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

CHECK REPORT
PIN CODE: 37A4C0D4

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DEXERIALS CORPORATION
1724 SHIMOTSUBOYAMA, SHIMOTSUKE-SHI, TOCHIGI 323-0194, JAPAN

**Test Part Description**

No.1 : SEMI-TRANSPARENT DOUBLE SIDED ADHESIVE (EXCLUDING THE RELEASE LINER)

**Test Result(s)**

| Test Item(s) | Method | Unit | MDL | Result |
|---|---|---|---|---|
| | | | | No.1 |
| Butyl benzyl phthalate (BBP) (CAS No.: 85-68-7) | With reference to IEC 62321-8: 2017, analysis was performed by GC/MS. | mg/kg | 50 | n.d. |
| Dibutyl phthalate (DBP) (CAS No.: 84-74-2) | With reference to IEC 62321-8: 2017, analysis was performed by GC/MS. | mg/kg | 50 | n.d. |
| Di-(2-ethylhexyl) phthalate (DEHP) (CAS No.: 117-81-7) | With reference to IEC 62321-8: 2017, analysis was performed by GC/MS. | mg/kg | 50 | n.d. |
| Diisobutyl phthalate (DIBP) (CAS No.: 84-69-5) | With reference to IEC 62321-8: 2017, analysis was performed by GC/MS. | mg/kg | 50 | n.d. |
| Diisodecyl phthalate (DIDP) (CAS No.: 26761-40-0, 68515-49-1) | With reference to IEC 62321-8: 2017, analysis was performed by GC/MS. | 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) | With reference to IEC 62321-8: 2017, analysis was performed by GC/MS. | mg/kg | 50 | n.d. |
| Dimethyl phthalate (DMP) (CAS No.: 131-11-3) | With reference to IEC 62321-8: 2017, analysis was performed by GC/MS. | mg/kg | 50 | n.d. |
| Di-ethyl phthalate (DEP) (CAS No.: 84-66-2) | With reference to IEC 62321-8: 2017, analysis was performed by GC/MS. | mg/kg | 50 | n.d. |
| Antimony (Sb) (CAS No.: 7440-36-0) | With reference to US EPA 3052: 1996, analysis was performed by ICP-OES. | mg/kg | 2 | n.d. |

**Note :**

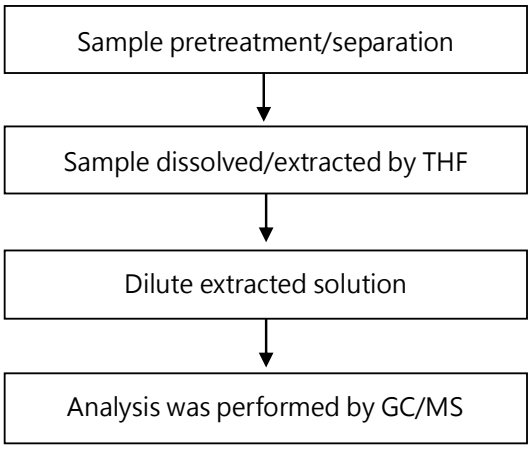
1. mg/kg = ppm ; 0.1wt% = 0.1% = 1000ppm
2. MDL = Method Detection Limit
3. n.d. = Not Detected ( Less than MDL)

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**Analytical flow chart - Phthalate**

**【Test method: IEC 62321-8】**



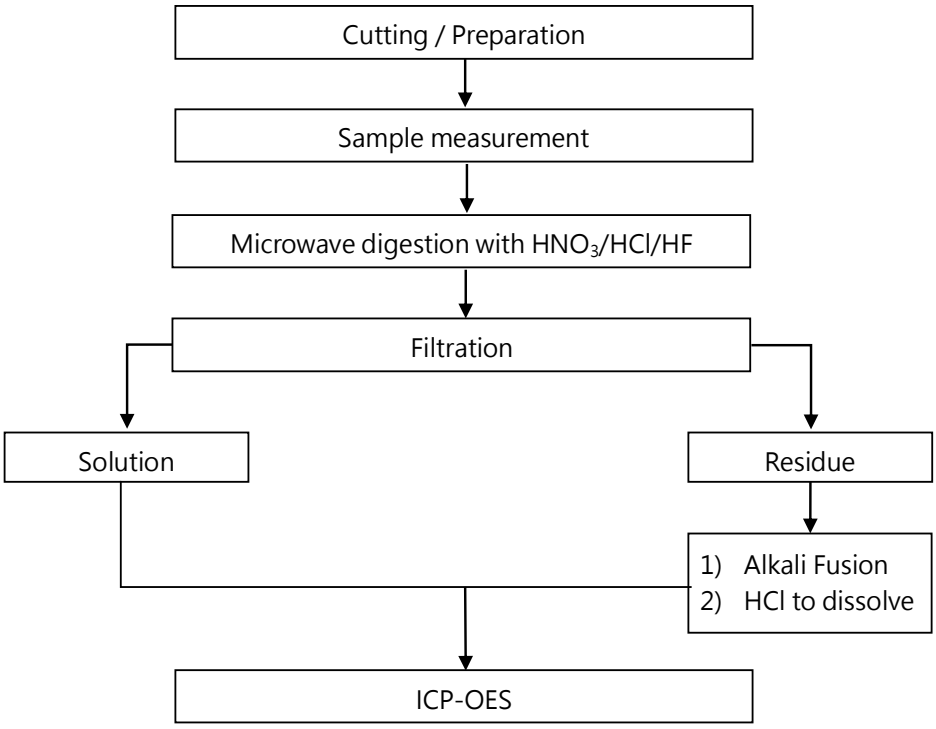

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**Analytical flow chart of Elements (Heavy Metal included)**

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

【Reference method：US EPA 3051A、US EPA 3052】



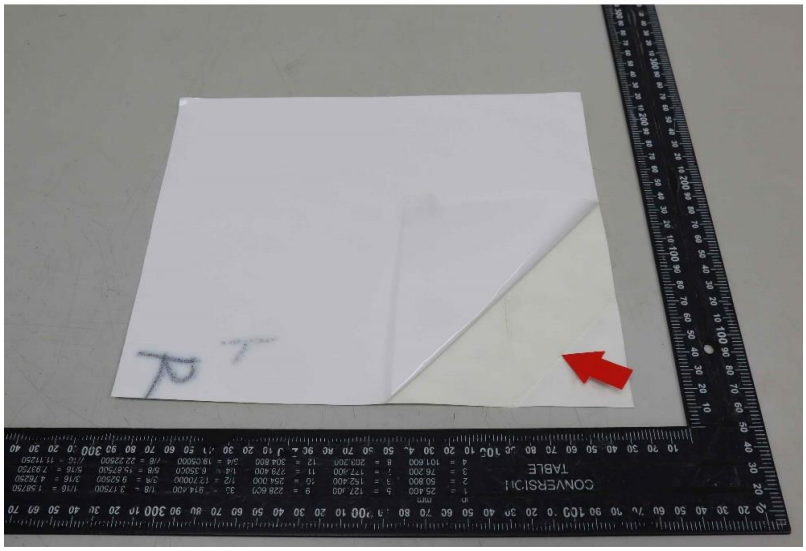

* US EPA 3051A method does not add HF.

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