

Chemical analysis Report N° 1256078A01 v1

Chemical analysis on baby diapers

10 September 2021

Quotation 2019/60454 (DSP 855852)
Reference Chemical analysis on baby diapers

Tested products

- BD LOVE + GREEN



Lucie VIENNE, *Study Manager*

*The copy of this report is only authorized by unabridged edition
This edition includes 16 pages + 1 appendix.*

The reported results relate exclusively to the tested samples. The samples will be kept only 2 months from the date of this report. The sample and the information regarding sample have been provided by the client. All information related to the sample are under liability of the client and have not been checked by the Eurofins ATS Company

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SUMMARY

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1. FOREWORD



The aim of this study is to analyse the chemical substances in baby diapers.

TESTED PRODUCTS:



 **BD LOVE+GREEN**
Reference: -
Supplier name: -
Batch N°: HBD3 15:28 2021.07.15 015
Barcode N°: -

The study is based on:

-  **EOX/AOX - (1T3VV)**
SOP Reference: *INDIKATOR GmbH*
-  **Allergens according to Regulation (EC) No 1223/2009 - GC-MS - EN 16274 mod. - (JJ606)**
SOP Reference: *Eurofins Consumer Product Testing GmbH*
-  **organotin compounds (8 OTC): environmental material, soil, solids, sludge, liquids - GC-MS - Internal - (GFU61)**
SOP Reference: *Eurofins GfA*
-  **Glyphosate, Glufosinate, AMPA in cotton material - LC-MS/MS - Internal Method - (SFW9Y)**
SOP Reference: *SOFIA GMBH*
-  **Organochlorine Pesticides and Pyrethroids - GC-ECD - ASU L 00.00-34:2010-09 - (SP101)**
SOP Reference: *EUROFINS Dr. Specht & Partner Laboratorien GmbH*
-  **Bisphenol A and F in packaging material - LC-MS/MS - Internal - for plastics and packaging - (JJ0GR)**
SOP Reference: *Eurofins Consumer Product Testing GmbH*
-  **Copper (Cu) – ICP – MS – EN ISO 17294-2 mod.- (FIN0U)**
SOP Reference: *Eurofins Consumer Product Testing GmbH*
-  **Nickel (Ni) – ICP – MS – EN ISO 17294-2 mod.- (JR0WJ)**
SOP Reference: *Eurofins Consumer Product Testing GmbH*
-  **Cobalt (Co) – ICP – MS – EN ISO 17294-2 mod.- (JR0WL)**
SOP Reference: *Eurofins Consumer Product Testing GmbH*
-  **Chromium (Cr) - ICP/MS - NF EN ISO 17294-2 - (JR0WK)**
SOP Reference: *Eurofins Consumer Product Testing GmbH*
-  **Lead (Pb) - ICP/MS - NF EN ISO 17294-2 - (JR0WI)**
SOP Reference: *Eurofins Consumer Product Testing GmbH*

- ❁ Cadmium (Cd) - ICP/MS - NF EN ISO 17294-2 - (JR0WG)
SOP Reference: Eurofins Consumer Product Testing GmbH
- ❁ Mercury (Hg) - ICP/MS - NF EN ISO 17294-2 - (JR0WE)
SOP Reference: Eurofins Consumer Product Testing GmbH
- ❁ Arsenic (As) - ICP/MS - NF EN ISO 17294-2 - (JR0WF)
SOP Reference: Eurofins Consumer Product Testing GmbH
- ❁ Antimony (Sb) - ICP/MS - NF EN ISO 17294-2 - (JR0WH)
SOP Reference: Eurofins Consumer Product Testing GmbH
- ❁ Nonylphenol, octylphenol, Nonylphenolmonoethoxylate in Material – extraction / GPC/ propylation/ GC/MS/MS – (1T3QX)
SOP Reference: PiCA Prüfinstitut Chemische Analytik GmbH
- ❁ VOC – analysis (headspace) – HS-GC-MS – Internal – (JR17A)
SOP Reference: Eurofins Consumer Product Testing GmbH
- ❁ Dioxins (17) - GC/MS/MS – Internal method - (GFU0A)
SOP Reference: Eurofins GfA
- ❁ PCB (12+6) | env| materials - (GFU0B)
SOP Reference: Eurofins GfA
- ❁ Polycyclic Aromatic Hydrocarbons (PAHs) in hygiene products – GC-MS - (JR1AK)
SOP Reference: Eurofins Consumer Product Testing GmbH
- ❁ Formaldehyde - Spectrophotometry - §64 LFGB B 82.02-1 - (J7004)
SOP Reference: Eurofins Consumer Product Testing GmbH
- ❁ Extractable content of dimethyl phthalate (DMP) in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW80)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ❁ Extractable content of diethyl phthalate (DEP) in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW81)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ❁ Extractable content of diisobutyl phthalate (DIBP) in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW82)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ❁ Extractable content of dibutyl phthalate (DBP) in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW83)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ❁ Extractable content of di-n-hexyl phthalate (DnHP) in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW84)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ❁ Extractable content of benzylbutyl phthalate (BBP) in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW85)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ❁ Extractable content of di(ethylhexyl) phthalate (DEHP) in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW86)
SOP Reference: EUROFINS PRODUCT TESTING A/S

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- ✿ Extractable content of di-n-octyl phthalate (DNOP) in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW87)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ✿ Extractable content of diisononyl phthalate (DINP) in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW88)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ✿ Extractable content of diisodecyl phthalate (DIDP) in materials - GC-MS - CPSC-CH-C1001-09.3 - (AWW89)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ✿ Extractable content of other phthalate in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW90)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ✿ Extractable content of di-n-pentyl phthalate (DNPP) in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW91)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ✿ Extractable content of dicyclohexyl phthalate (DCP) in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW92)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ✿ Extractable content of n-pentylisopentyl phthalate (PiPP) in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW93)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ✿ Extractable content of diisopentyl phthalate (DIPP) in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW94)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ✿ Extractable content of di(2-methoxyethyl) phthalate (DMEP) in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW95)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ✿ Extractable content of diisoheptyl phthalate (DIHpP) in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW96)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ✿ Extractable content of diheptylnonylundecyl phthalate (DHNUP) in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW98)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ✿ Extractable content of 1,2-Benzene dicarboxylic acid, dihexyl ester in materials - GC-MS - CPSC-CH-C1001-09.4 - (AW1FX)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ✿ Extractable content of 1,2-Benzene dicarboxylic acid, dipentyl ester in materials - GC-MS - CPSC-CH-C1001-09.4 - (AW1G6)
SOP Reference: EUROFINS PRODUCT TESTING A/S
- ✿ Di-C6-C10 alkylphthalates in materials - GC-MS - CPSC-CH-C1001-09.4 - For package PAWWA - (AWW1A)
SOP Reference: EUROFINS PRODUCT TESTING A/S

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2. SYNTHESIS/CONCLUSION

There is no detection of the searched chemical substance in the tested product.

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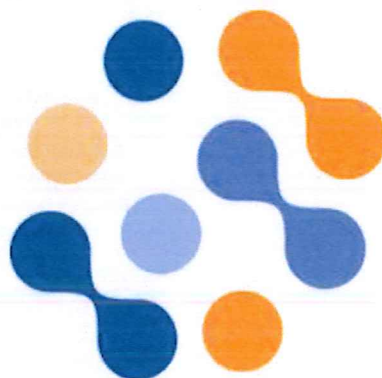
Code APE : 7120B

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3. RESULTS



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Chemical Analysis

| Brand Manufacturer Denomination Batch n° Sample n° | BD LOVE+GREEN HBD3 15:28 2021.07.15 015 829847 |
|--|--|
| Organochlorine Pesticides and Pyrethroids (GC-ECD) - GC-ECD - ASU L 00.00-34:2010-09 - trial 2 | Screened pesticides Not detected |
| Glyphosate, Glufosinate, AMPA in cotton material - LC-MS/MS - Internal Method - trial 2 | |
| Aminomethylphosphonic acid (AMPA) - CAS N°:1066-51-9 ng/1 g | <10 |
| Glufosinate - CAS N°:51276-47-2 ng/1 g | <10 |
| Glyphosate - CAS N°:1071-83-6 ng/1 g | <10 |
| Polycyclic Aromatic Hydrocarbons (PAHs) in hygiene products - GC-MS | |
| Naphthalene - CAS N°:91-20-3 mg/kg | <0,1 |
| Phenanthrene - CAS N°:85-01-8 mg/kg | <0,1 |
| Anthracene - CAS N°:120-12-7 mg/kg | <0,1 |
| Fluoranthene - CAS N°:206-44-0 mg/kg | <0,1 |
| Pyrene - CAS N°:129-00-0 mg/kg | <0,1 |
| Benzo(a)anthracène - CAS N°:56-55-3 mg/kg | <0,1 |
| Chrysene - CAS N°:218-01-9 mg/kg | <0,1 |
| Benzo(b)fluoranthene - CAS N°:205-99-2 mg/kg | <0,1 |
| Benzo(k)fluoranthene - CAS N°:207-08-9 mg/kg | <0,1 |
| Benzo-(j)-fluoranthene - CAS N°:205-82-3 mg/kg | <0,1 |
| Benzo(a)pyrene - CAS N°:50-32-8 mg/kg | <0,1 |
| Benzo(e)pyrene - CAS N°:192-97-2 mg/kg | <0,1 |
| Indeno-(1,2,3-cd)-pyrene - CAS N°:193-39-5 mg/kg | <0,1 |
| Dibenzo(a,h)anthracene - CAS N°:53-70-3 mg/kg | <0,1 |
| Benzo(ghi)Perylene - CAS N°:191-24-2 mg/kg | <0,1 |
| Acenaphthylene (particule) - CAS N°:208-96-8 mg/kg | <0,1 |
| Acenaphthene - CAS N°:83-32-9 mg/kg | <0,1 |
| Fluorene - CAS N°:86-73-7 mg/kg | <0,1 |
| Sum 18 PAH mg/kg | <0,2 |
| Dioxins(17) envi materials - GC-MS/MS - Internal - trial 2 | |
| 2,3,7,8-TetraCDD - CAS N°:1746-01-6 pg/g | <0,119 |
| 1,2,3,7,8-PentaCDD - CAS N°:40321-76-4 pg/g | <0,157 |
| 1,2,3,4,7,8-HexaCDD - CAS N°:39227-28-6 pg/g | <0,239 |
| 1,2,3,6,7,8-HexaCDD - CAS N°:57653-85-7 pg/g | <0,327 |
| 1,2,3,7,8,9-HexaCDD - CAS N°:19408-74-3 pg/g | <0,308 |
| 1,2,3,4,6,7,8-HeptaCDD - CAS N°:35822-46-9 pg/g | <0,503 |
| OctaCDD - CAS N°:3268-87-9 pg/g | <3,65 |
| 2,3,7,8-TetraCDF - CAS N°:51207-31-9 pg/g | <0,327 |
| 1,2,3,7,8-PentaCDF - CAS N°:57117-41-6 pg/g | <0,226 |
| 2,3,4,7,8-PentaCDF - CAS N°:57117-31-4 pg/g | <0,352 |
| 1,2,3,4,7,8-HexaCDF - CAS N°:70648-26-9 pg/g | <0,371 |
| 1,2,3,6,7,8-HexaCDF - CAS N°:57117-44-9 pg/g | <0,340 |
| 1,2,3,7,8,9-HexaCDF - CAS N°:72918-21-9 pg/g | <0,252 |
| 2,3,4,6,7,8-HexaCDF - CAS N°:60851-34-5 pg/g | <0,308 |
| 1,2,3,4,6,7,8-HeptaCDF - CAS N°:67562-39-4 pg/g | <0,352 |
| 1,2,3,4,7,8,9-HeptaCDF - CAS N°:55673-89-7 pg/g | <0,245 |
| OctaCDF - CAS N°:39001-02-0 pg/g | <0,755 |

Chemical Analysis

| Brand | | |
|--|---|---------------------------|
| Manufacturer | | |
| Denomination | | BD LOVE+GREEN |
| Batch n° | | HBD3 15:28 2021.07.15 015 |
| Sample n° | | 829847 |
| VOC-Headspace-GC/MS - HS-GC-MS - Internal Method - trial 2 | | |
| | Benzene - CAS N°:71-43-2 mg/kg | <0,1 |
| | Bromobenzene - CAS N°:108-86-1 mg/kg | <0,1 |
| | Bromochloromethane - CAS N°:74-97-5 mg/kg | <0,1 |
| | Bromodichloromethane - CAS N°:75-27-4 mg/kg | <0,1 |
| | Bromoform - CAS N°:75-25-2 mg/kg | <0,1 |
| | 2-Chlorotoluene - CAS N°:95-49-8 mg/kg | <0,1 |
| | 4-Chlorotoluene - CAS N°:106-43-4 mg/kg | <0,1 |
| | Dibromochloromethane - CAS N°:124-48-1 mg/kg | <0,1 |
| | 1,2-Dibromoethane - CAS N°:106-93-4 mg/kg | <0,1 |
| | Dibromomethane - CAS N°:74-95-3 mg/kg | <0,1 |
| | 1,2-Dichlorobenzene (o-) - CAS N°:95-50-1 mg/kg | <0,1 |
| | 1,3-Dichlorobenzene (m-dichlorobenzene) - CAS N°:541-73-1 mg/kg | <0,1 |
| | 1,4-Dichlorobenzene (p-) - CAS N°:106-46-7 mg/kg | <0,1 |
| | 1,1-dichloroethane - CAS N°:75-35-3 mg/kg | <0,1 |
| | 1,2-dichloroethane - CAS N°:107-06-2 mg/kg | <0,1 |
| | 1,1-Dichloroethene - CAS N°:75-35-4 mg/kg | <0,1 |
| | cis 1,2-Dichloroethene - CAS N°:156-59-2 mg/kg | <0,1 |
| | Dichloromethane - CAS N°:75-09-2 mg/kg | <0,1 |
| | 1,2-Dichloropropane - CAS N°:78-87-5 mg/kg | <0,1 |
| | 1,3-Dichloropropane - CAS N°:142-28-9 mg/kg | <0,1 |
| | 2,2-Dichloropropane - CAS N°:594-20-7 mg/kg | <0,1 |
| | 1,1-Dichloropropene - CAS N°:563-58-6 mg/kg | <0,1 |
| | Ethylbenzene - CAS N°:100-41-4 mg/kg | <0,1 |
| | Hexachlorobutadiene - CAS N°:87-68-3 mg/kg | <0,1 |
| | iso-Propylbenzene - CAS N°:98-82-8 mg/kg | <0,1 |
| | Monochlorobenzene - CAS N°:108-90-7 mg/kg | <0,1 |
| | Naphthalene - CAS N°:91-20-3 mg/kg | <0,1 |
| | n-Butylbenzene - CAS N°:104-51-8 mg/kg | <0,1 |
| | n-Propylbenzene - CAS N°:103-65-1 mg/kg | <0,1 |
| | p-Isopropyltoluene - CAS N°:99-87-6 mg/kg | <0,1 |
| | sec-Butylbenzene - CAS N°:135-98-8 mg/kg | <0,1 |
| | tert-Butylbenzene - CAS N°:98-06-6 mg/kg | <0,1 |
| | Styrene - CAS N°:100-42-5 mg/kg | <0,1 |
| | 1,1,2,2-tetrachloroethane - CAS N°:79-34-5 mg/kg | <0,1 |
| | 1,1,1,2-Tetrachloroethane - CAS N°:630-20-6 mg/kg | <0,1 |
| | Tetrachloroethene - CAS N°:127-18-4 mg/kg | <0,1 |
| | Tetrachloromethane - CAS N°:56-23-5 mg/kg | <0,1 |
| | Toluene - CAS N°:108-88-3 mg/kg | <0,1 |
| | trans-Dichloroethene - CAS N°:156-60-5 mg/kg | <0,1 |
| | 1,2,3-Trichlorobenzene - CAS N°:87-61-6 mg/kg | <0,1 |
| | 1,2,4-Trichlorobenzene - CAS N°:120-82-1 mg/kg | <0,1 |
| | 1,1,2-trichloroethane - CAS N°:79-00-5 mg/kg | <0,1 |
| | 1,1,1-Trichloroethane - CAS N°:71-55-6 mg/kg | <0,1 |
| | Trichloroethene - CAS N°:79-01-6 mg/kg | <0,1 |
| | Chloroform (Trichloromethane) - CAS N°:67-66-3 mg/kg | <0,1 |
| | 1,2,3-Trichloropropane - CAS N°:96-18-4 mg/kg | <0,1 |
| | 1,2,4-Trimethylbenzene - CAS N°:95-63-6 mg/kg | <0,1 |
| | 1,3,5-Trimethylbenzene (Mesitylene) - CAS N°:108-67-8 mg/kg | <0,1 |
| | m-/p-Xylene - CAS N°:1330-20-7 mg/kg | <0,1 |
| | Xylene (ortho-) - CAS N°:95-47-6 mg/kg | <0,1 |
| | TVOC mg/kg | <0,1 |

Chemical Analysis

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|--|--|
| Allergens - GC-MS - EN 16274:2012-09, mod. - trial 2 | |
| Amyl Cinnamal - CAS N°:122-40-7 mg/kg | <1 |
| Amylcinnamylalcohol - CAS N°:101-85-9 mg/kg | <1 |
| Benzylalcohol - CAS N°:100-51-6 mg/kg | <1 |
| Benzylsalicylate - CAS N°:118-58-1 mg/kg | <1 |
| Cinnamyl alcohol - CAS N°:104-54-1 mg/kg | <1 |
| Cinnamal - CAS N°:104-55-2 mg/kg | <1 |
| Citral - CAS N°:5392-40-5 mg/kg | <1 |
| Coumarin - CAS N°:91-64-5 mg/kg | <1 |
| Eugenol - CAS N°:97-53-0 mg/kg | <1 |
| Geraniol - CAS N°:106-24-1 mg/kg | <1 |
| Hydroxycitronellal - CAS N°:107-75-5 mg/kg | <1 |
| Hydroxyisohexyl 3-Cyclohexene Carboxaldehyde - CAS N°:31906-04-4 mg/kg | <1 |
| Isoeugenol - CAS N°:97-54-1 mg/kg | <1 |
| Anise Alcohol - CAS N°:105-13-5 mg/kg | <1 |
| Benzylbenzoate - CAS N°:120-51-4 mg/kg | <1 |
| Benzylcinnamate - CAS N°:103-41-3 mg/kg | <1 |
| Citronellol - CAS N°:106-22-9 mg/kg | <1 |
| Farnesol - CAS N°:4602-84-0 mg/kg | <1 |
| Hexylcinnamal - CAS N°:101-86-0 mg/kg | <1 |
| Butylphenyl Methylpropional - CAS N°:80-54-6 mg/kg | <1 |
| Limonen mg/kg | <1 |
| Linalool - CAS N°:78-70-6 mg/kg | <1 |
| Methyl 2-Octynoate - CAS N°:111-12-6 mg/kg | <1 |
| Alpha-Isomethyl Ionone - CAS N°:127-51-5 mg/kg | <1 |
| Evernia Furfuracea Extract (qualitative) | negative |
| Evernia Prunastri Extract (qualitative) | negative |
| OTC (8) envi solids, soil, sludge, liquids - GC-MS - Internal - trial 2 | |
| Monobutyltin (MBT) - CAS N°:78763-54-9 µg/kg | <4,6 |
| Monobutyltin (MBT) - Sn - CAS N°:1118-46-3 µg/kg | <3,1 |
| Dibutyltin (DBT) - CAS N°:818-08-6 µg/kg | <4,6 |
| Dibutyltin (DBT) - Sn - CAS N°:683-18-1 µg/kg | <2,3 |
| Tributyltin (TBT) - CAS N°:688-73-3 µg/kg | <4,6 |
| Tributyltin (TBT) - Sn - CAS N°:1461-22-9 µg/kg | <1,9 |
| Tetrabutyltin (TTBT) - CAS N°:1461-25-2 µg/kg | <4,6 |
| Tetrabutyltin (TTBT) - Sn - CAS N°:1461-25-2 µg/kg | <1,6 |
| Monooctyltin (MOT) - CAS N°:3091-25-6 µg/kg | <4,6 |
| Monooctyltin (MOT) - Sn - CAS N°:3091-25-6 µg/kg | <2,4 |
| Dioctyltin (DOT) - CAS N°:870-08-6 µg/kg | <4,6 |
| Dioctyltin (DOT) - Sn - CAS N°:3542-36-7 µg/kg | <1,6 |
| Triphenyltin (TPhT) - CAS N°:76-87-9 µg/kg | <4,6 |
| Triphenyltin (TPhT) - Sn - CAS N°:639-58-7 µg/kg | <1,6 |
| Tricyclohexyltin (TCyT) - CAS N°:13121-70-5 µg/kg | <9,2 |
| Tricyclohexyltin (TCyT) - Sn - CAS N°:3091-32-5 µg/kg | <3,0 |
| EOX/AOX - trial 2 | |
| EOX (extractable organic halogens) mg/kg | <2 |
| AOX (adsorbable organic halogens) mg/kg | <0,5 |

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| Brand Manufacturer Denomination Batch n° Sample n° | BD LOVE+GREEN HBD3 15:28 2021.07.15 015 829847 |
|---|--|
| Copper (Cu) - ICP-MS - DIN EN ISO 17294-2:2007-01 mod. - trial 2 | |
| Copper (Cu) - CAS N°:7440-50-8 mg/kg | <1 |
| Nickel (Ni) - ICP-MS - DIN EN ISO 17294-2:2007-01 mod. - trial 2 | |
| Nickel (Ni) - CAS N°:7440-02-0 mg/kg | <1 |
| Cobalt (Co) - ICP-MS - DIN EN ISO 17294-2:2007-01 mod. - trial 2 | |
| Cobalt (Co) - CAS N°:7440-48-4 mg/kg | <1 |
| Chromium (Cr) - ICP-MS - DIN EN ISO 17294-2:2007-01 mod. - trial 2 | |
| Chromium (Cr) - CAS N°:7440-47-3 mg/kg | <1 |
| Lead (Pb) - ICP-MS - DIN EN ISO 17294-2:2007-01 mod. - trial 2 | |
| Lead (Pb) - CAS N°:7439-92-1 mg/kg | <1 |
| Cadmium (Cd) - ICP-MS - DIN EN ISO 17294-2:2007-01 mod. - trial 2 | |
| Cadmium (Cd) - CAS N°:7440-43-9 mg/kg | <0,1 |
| Mercury (Hg) - ICP-MS - DIN EN ISO 17294-2:2007-01 mod. - trial 2 | |
| Mercury (Hg) mg/kg | <0,1 |
| Antimony (Sb) - ICP-MS - DIN EN ISO 17294-2:2007-01 mod. - trial 2 | |
| Antimony (Sb) - CAS N°:7440-36-0 mg/kg | <1 |
| Arsenic (As) - ICP-MS - DIN EN ISO 17294-2:2007-01 mod. - trial 2 | |
| Arsenic (As) - CAS N°:7440-38-2 mg/kg | <1 |
| Nonylphenol, octylphenol, Nonylphenolmonoethoxylate in Material - extraction / GPC / propylation / GC/MS/MS - trial 2 | |
| Nonylphenoldiethoxylate - CAS N°:20427-84-3 mg/kg | <5 |
| Nonylphenol Monoethoxylates mg/kg | <5 |
| 4-tert-octylphenol - CAS N°:140-66-9 mg/kg | <1 |
| Nonylphenol mixed isomers mg/kg | <5 |
| Bisphenol A - CAS N°:1478-61-1 mg/kg | <5 |
| PCB(12+6) envi materials - GC-MS/MS - Internal - trial 2 | |
| PCB 77 - CAS N°:32598-13-3 pg/g | <11,3 |
| PCB 81 - CAS N°:70362-50-4 pg/g | <1,70 |
| PCB 105 - CAS N°:32598-14-4 pg/g | <24,5 |
| PCB 114 - CAS N°:74472-37-0 pg/g | <3,33 |
| PCB 118 - CAS N°:31508-00-6 pg/g | <88,1 |
| PCB 123 - CAS N°:65510-44-3 pg/g | <2,52 |
| PCB 126 - CAS N°:57465-28-8 pg/g | <1,57 |
| PCB 156 - CAS N°:38380-08-4 pg/g | <13,8 |
| PCB 157 - CAS N°:69782-90-7 pg/g | <2,58 |
| PCB 167 - CAS N°:52663-72-6 pg/g | <6,92 |
| PCB 169 - CAS N°:32774-16-6 pg/g | <7,55 |
| PCB 189 - CAS N°:39635-31-9 pg/g | <2,52 |
| PCB 28 - CAS N°:7012-37-5 ng/g | <0,629 |
| PCB 52 - CAS N°:35693-99-3 ng/g | <0,629 |
| PCB 101 - CAS N°:37680-73-2 ng/g | <0,629 |
| PCB 138 - CAS N°:35065-28-2 ng/g | <0,629 |
| PCB 153 - CAS N°:35065-27-1 ng/g | <0,629 |
| PCB 180 - CAS N°:35065-29-3 ng/g | <0,629 |

Chemical Analysis

| Brand Manufacturer Denomination Batch n° Sample n° | BD LOVE+GREEN HBD3 15:28 2021.07.15 015 829847 |
|---|--|
| Dimethylphthalate (DMP) in materials - GC-MS - CPSC-CH-C1001-09.4 - Pour package PAWFV | |
| Dimethylphthalate - CAS N°:131-11-3 mg/kg | <5 |
| Extractable content of diethyl phthalate (DEP) in materials - GC-MS - CPSC-CH-C1001-09.4 | |
| Diethylphthalate - CAS N°:84-66-2 mg/kg | <5 |
| Extractable content of diisobutyl phthalate (DIBP) in materials - GC-MS - CPSC-CH-C1001-09.4 | |
| Di-isobutyl phthalate (DiBP) - CAS N°:84-69-5 mg/kg | <5 |
| Extractable content of dibutyl phthalate (DBP) in materials - GC-MS - CPSC-CH-C1001-09.4 | |
| Di-n-butylphthalate - CAS N°:84-74-2 mg/kg | <5 |
| Extractable content of di-n-hexyl phthalate (DnHP) in materials - GC-MS - CPSC-CH-C1001-09.4 | |
| Dihexyl phthalate (DHXP) - CAS N°:84-75-3 mg/kg | <5 |
| Extractable content of benzylbutyl phthalate (BBP) in materials - GC-MS - CPSC-CH-C1001-09.4 | |
| Benzyl butyl phthalate - CAS N°:85-68-7 mg/kg | <5 |
| Extractable content of di(ethylhexyl) phthalate (DEHP) in materials - GC-MS - CPSC-CH-C1001-09.4 | |
| Bisethylhexylphthalate - CAS N°:117-81-7 mg/kg | <5 |
| Extractable content of di-n-octyl phthalate (DNOP) in materials - GC-MS - CPSC-CH-C1001-09.4 | |
| Di-n-octylphthalate (DNOP) - CAS N°:117-84-0 mg/kg | <5 |
| Extractable content of diisononyl phthalate (DINP) in materials - GC-MS - CPSC-CH-C1001-09.4 | |
| Diisononylphthalate (DINP) - CAS N°:68515-48-0 mg/kg | <30 |
| Extractable content of diisodecyl phthalate (DIDP) in materials - GC-MS - CPSC-CH-C1001-09.3 | |
| Diisodecylphthalate (DIDP) - CAS N°:26761-40-0 mg/kg | <30 |
| Extractable content of di-n-pentyl phthalate (DNPP) in materials - GC-MS - CPSC-CH-C1001-09.4 | |
| Dipentylphthalate - CAS N°:131-18-0 mg/kg | <5 |
| Extractable content of dicyclohexyl phthalate (DCP) in materials - GC-MS - CPSC-CH-C1001-09.4 | |
| Dicyclohexylphthalat - CAS N°:84-61-7 mg/kg | <5 |
| Extractable content of n-pentylisopentyl phthalate (PIPP) in materials - GC-MS - CPSC-CH-C1001-09.4 | |
| n-Pentylisopentyl phthalate - CAS N°:776297-69-9 mg/kg | <5 |
| Extractable content of diisopentyl phthalate (DIPP) in materials - GC-MS - CPSC-CH-C1001-09.4 | |
| Di-(isopentyl)phthalate (DiPP) - CAS N°:605-50-5 mg/kg | <5 |
| Extractable content of di(2-methoxyethyl) phthalate (DMEP) in materials - GC-MS - CPSC-CH-C1001-09.4 | |
| Di-(2-methoxyethyl)phthalate (DMEP) - CAS N°:117-82-8 mg/kg | <10 |
| Extractable content of diisooheptyl phthalate (DIHP) in materials - GC-MS - CPSC-CH-C1001-09.4 | |
| DiisoHeptylphthalate (DiHP) - CAS N°:41451-28-9 mg/kg | <25 |
| Extractable content of diheptylnonylundecyl phthalate (DHNUP) in materials - GC-MS - CPSC-CH-C1001-09.4 | |
| Heptylnonylundecyl phthalate - CAS N°:68515-42-4 mg/kg | <50 |
| 1,2-Benzene dicarboxylic acid, dihexyl ester - GC-MS - CPSC-CH-C1001-09.4 | |
| Diisohexylphthalate - CAS N°:68515-50-4 mg/kg | <5 |
| 1,2-Benzene dicarboxylic acid, dipentyl ester - GC-MS - CPSC-CH-C1001-09.4 | |
| Phthalic acid, n-pentyl-isopentyl ester (DPP) - CAS N°:84777-06-0 mg/kg | <5 |
| Di-C6-C10 alkylphthalates in materials - GC-MS - CPSC-CH-C1001-09.4 | |
| C6-C10 Mixed phthalates mg/kg | <50 |
| Extractable content of other phthalates in materials - GC-MS - CPSC-CH-C1001-09.4 | |
| Other phthalates mg/kg | <50 |
| Bisphenol A and F in packaging material - LC-MS/MS - Internal Method - trial 2 - for plastics and packaging | |
| Bisphenol A - CAS N°:80-05-7 mg/kg | <0,5 |
| Bisphenol F - CAS N°:2467-02-9 mg/kg | <0,5 |
| Formaldehyde (textiles) - Spectrophotometry - §64 LFGB B 82.02-1:1985-06 - trial 2 | |
| Formaldehyde - CAS N°:50-00-0 mg/kg | <10 |

4. PROTOCOL

EOX/AOX

The parameters AOX and EOX are sum parameters. Org. halogen compounds of Cl, Br and J are determined. These are in-house procedures based on the standards for AOX and EOX (see below).

AOX

The procedure for the determination of organic halogens in solids is as follows. First, the sample is eluted with hot water. Then the organic halogens dissolved in the water are determined using the methods standardized under the term AOX analysis (DIN EN ISO 9562). Water-soluble and thus mobile organic halogen compounds are thus detected. As this is a sum parameter, it is not possible to identify individual substances.

Alternative: For the determination of samples with an absorbent core we have developed a sample preparation variant. Here the aqueous extract is not prepared by hot water extraction but by elution over 8 hours at 40 °C using 2% sulfuric acid. The actual analysis of the aqueous extract according to DIN EN ISO 9562 is identical.

EOX

The sample is rubbed with silica gel and then extracted with ethyl acetate. The extract is burned in an oxygen stream according to DIN 38414-17. The halogen content is then determined microcoulometrically.

We are accredited for these process routes (determination of organic halogen compounds) according to DIN EN ISO/EC 17025.

Allergens according to Regulation (EC) No 1223/2009 - GC-MS - EN 16274:2012-09, mod.

The aim of this method is to search and quantify the allergens according to the European regulation 1223/2009. The method is based on extraction of allergens from the product to test with tert-butyl-methyl-ether (inert and not volatile solvent). For identification and quantification of allergens, the liquid is injected directly in a system: gas chromatography coupled with mass spectrometer.

The analysis is performed on all the components of the product (on a mix of the whole product).

organotin compounds (8 OTC): environmental material, soil, solids, sludge, liquids - GC-MS

- Extraction of hexane and in-situ-derivatisation with sodiumtetraethylborate
- Addition of internal standard substances to facilitate the extraction
- Washing of the Hexane phase
- Addition of Tetrapentyltin
- Analysis in gas chromatography coupled to a mass spectrometer (GC/MS)
- Quantification of the organotins (internal method)

Glyphosate, Glufosinate, AMPA in cotton material - LC-MS/MS

The aim of this method is to search and to quantify the glyphosate (herbicide) and the aminomethylphosphonic acid (principal product of the glyphosate degradation). The method is based on an extraction in an acid aqueous solution. The quantification is by liquid chromatography combined with a mass spectroscopy. The analysis is performed on the absorbent pad.

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Pesticides

The aim of this method is to search and to quantify the organochlorine pesticides and the pyrethroids (insecticides). These substances are extracted from the product with acetone. Before the extraction, water is added to the sample with a quantity chosen according to the natural water content of the sample (during the extraction, the ratio acetone/water has to be constant at 2/1 v/v). For the separation liquid/liquid, sodium chloride and a mix of cyclohexane and ethyl acetate are added to the preparation; the whole is mixed carefully, and then allowed to rest for the separation of the different phases. A determinate part of the organic phase is dried with sodium sulfate then reduced in volume. Identical volumes of ethyl acetate and cyclohexane are added successively to the residue. The residual water is removed by a mix of sodium sulfate and sodium chloride; the solution is then filtered. The extract is purified by chromatography with gel permeation. The obtained eluent goes through a small column of silica gel and is eluted with solvents of increasing polarity. This step is necessary for the determination by gas chromatography using a detector with capture of electrons.

Bisphenol A and F - LC-MS/MS

The test uses ethanol extraction and applies on packaging materials made of plastic, paper or cardboard. Bisphenol A et F.

Heavy metals – ICP/MS

Microwave decomposition. Internal method by ICP-MS

Nonylphenol, octylphenol, Nonylphenolmonoethoxylate in Material - extraction / GPC / propylation - GC/MS/MS

A representative sampling of the sample is mixed with a standard and extracted with MTBE in an ultrasonic bath. The measurement is performed by GC/MS/MS in MRM mode.

VOC-analysis (headspace) - HS-GC-MS

Internal method

Analysis in gas chromatography combined with a mass spectrometer (GC/MS)

Dioxins (17) [envij] materials - GC-MS/MS

The aim of this method is to search and to quantify the dioxins (Polychlorinated dibenzodioxin / PCDD) and furans (Polychlorinated dibenzofuran / PCDF). There are 75 PCDD and 135 PCDF but only 17 are recognized as toxics for man.

The extraction of PCDD and PCDF is carried out with toluene (Soxhlet method). The quantification is performed by gas chromatography combined with a mass spectroscopy (high resolution).

The analysis is performed on all the components of the product (on a mix of the whole product).

Remark:

We will note that the limit of quantification of this analysis depends on the quantity of used product. This quantity can slightly increase if we note the presence of interferences during the analysis, which forces the operator to carry out once again the analysis with more material; the consequence is to have a slightly higher limit of quantification.

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PCB (12+6) |envi| materials - GC-MS - Internal

This analysis consists in determining the PCBs content of the sample according to EN ISO 15318. The method is by GC-MS. Extraction with ethanoic potassium hydroxide and hexane.

Polycyclic Aromatic Hydrocarbons (PAHs) in products - GC-MS - AfPS GS 2014:01 PAK - materials

The aim of this method is to search and to quantify the polycyclic aromatic hydrocarbons (PAHs). The method consists on an extraction of the PAHs with toluene, in an ultrasonic bath, and the quantification is by gas chromatography combined with a mass spectroscopy.
The analysis is performed on all the components of the products (on a mix of the whole product).

Formaldehyde - Spectrophotometry - §64 LFGB B 82.02-1

The aim of this method is to search and quantify the formaldehyde (CMR substance: carcinogenic, mutagenic and reprotoxic). The formaldehyde (or formic aldehyde) is extracted from the product to test with distilled water (at 23°C, during 24h). Then the extracted formaldehyde reacts with acetylacetone and ammonium acetate to create the 3,5-diacetyl-1,4-dihydrolutidine (which is dosed by photometry at 412nm). The final measurement is performed by spectrophotometry.

The analysis is performed on all the components of the product (on a mix of the whole product).

Extractable content of phthalates in materials - GC-MS - CPSC-CH-C1001-09.4

Extraction overnight of 2g in dichloromethane. The extract is transferred to a vial for GC-MS analysis.

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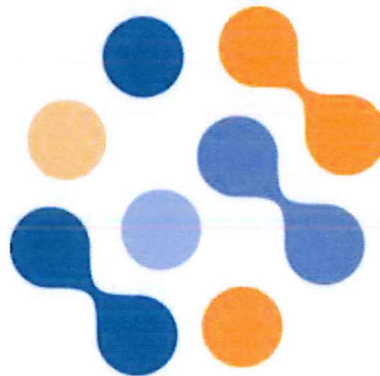
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5. APPENDIX



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