Chemical analysis
Report N° 1233300A01 v1

Chemical analysis on baby diapers

8 April 2021

Quotation 2019/60454 (DSP 836634)
Reference Chemical analysis on baby diapers

Tested products

BD LOVE+GREEN

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

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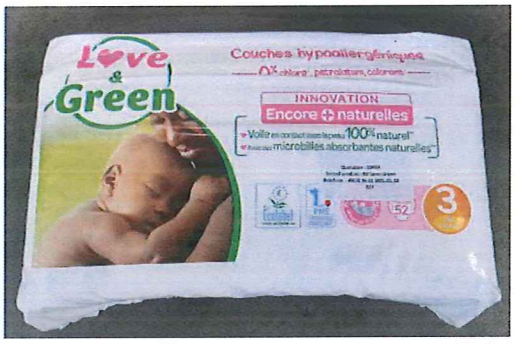
SUMMARY

1. FOREWORD

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

TESTED PRODUCTS:



- BD LOVE+GREEN
  Supplier name: --
  Batch N°: HBD8 16:31 2021.01.23 022S
  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 - 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.- (FIN0U)
  SOP Reference: Eurofins Consumer Product Testing GmbH
- Cobalt (Co) – ICP – MS – EN ISO 17294-2 mod.- (FIN0U)
  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, octyphenol, 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) |envi| 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 dimetyl phthalate (DMP) in materials - GC-MS - CPSC-CH-C1001-09.4 - (AWW80)
  SOP Reference: EUROFINS PRODUCT TESTING A/S
- Extractable content of diethtyl 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

- 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

2. SYNTHESIS/CONCLUSION

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

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3. RESULTS

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SYNTHESIS TABLE: CHEMICAL ANALYSIS

Brand Manufacturer Denomination Batch n°	-- -- BD LOVE+GREEN HBD8 16:31 2021.01.23 022S
Dioxins(17) |envi| materials - GC-MS/MS - Internal - trial 2	
2,3,7,8-TetraCDD - CAS N°:1746-01-6 pg/g	<0,0880
1,2,3,7,8-PentaCDD - CAS N°:40321-76-4 pg/g	<0,116
1,2,3,4,7,8-HexaCDD - CAS N°:39227-28-6 pg/g	<0,176
1,2,3,6,7,8-HexaCDD - CAS N°:57653-85-7 pg/g	<0,241
1,2,3,7,8,9-HexaCDD - CAS N°:19408-74-3 pg/g	<0,227
1,2,3,4,6,7,8-HeptaCDD - CAS N°:35822-46-9 pg/g	<0,370
OctaCDD - CAS N°:3268-87-9 pg/g	<2,69
2,3,7,8-TetraCDF - CAS N°:51207-31-9 pg/g	<0,241
1,2,3,7,8-PentaCDF - CAS N°:57117-41-6 pg/g	<0,167
2,3,4,7,8-PentaCDF - CAS N°:57117-31-4 pg/g	<0,259
1,2,3,4,7,8-HexaCDF - CAS N°:70648-26-9 pg/g	<0,273
1,2,3,6,7,8-HexaCDF - CAS N°:57117-44-9 pg/g	<0,250
1,2,3,7,8,9-HexaCDF - CAS N°:72918-21-9 pg/g	<0,185
2,3,4,6,7,8-HexaCDF - CAS N°:60851-34-5 pg/g	<0,227
1,2,3,4,6,7,8-HeptaCDF - CAS N°:67562-39-4 pg/g	<0,259
1,2,3,4,7,8,9-HeptaCDF - CAS N°:55673-89-7 pg/g	<0,181
OctaCDF - CAS N°:39001-02-0 pg/g	<0,556
PCB(12+6) |envi| materials - GC-MS/MS - Internal - trial 2	
PCB 77 - CAS N°:32598-13-3 pg/g	<8,33
PCB 81 - CAS N°:70362-50-4 pg/g	<1,25
PCB 105 - CAS N°:32598-14-4 pg/g	<18,1
PCB 114 - CAS N°:74472-37-0 pg/g	<2,45
PCB 118 - CAS N°:31508-00-6 pg/g	<64,8
PCB 123 - CAS N°:65510-44-3 pg/g	<1,85
PCB 126 - CAS N°:57465-28-8 pg/g	<1,16
PCB 156 - CAS N°:38380-08-4 pg/g	<10,2
PCB 157 - CAS N°:69782-90-7 pg/g	<1,90
PCB 167 - CAS N°:52663-72-6 pg/g	<5,09
PCB 169 - CAS N°:32774-16-6 pg/g	<5,56
PCB 189 - CAS N°:39635-31-9 pg/g	<1,85
PCB 28 - CAS N°:7012-37-5 ng/g	<0,463
PCB 52 - CAS N°:35693-99-3 ng/g	<0,463
PCB 101 - CAS N°:37680-73-2 ng/g	<0,463
PCB 138 - CAS N°:35065-28-2 ng/g	<0,463
PCB 153 - CAS N°:35065-27-1 ng/g	<0,463
PCB 180 - CAS N°:35065-29-3 ng/g	<0,463
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

Brand	--
Manufacturer	--
Denomination	BD LOVE+GREEN
Batch n°	HBD8 16:31 2021.01.23 022S
organotin compounds (8 OTC): environmental material, soil, solids, sludge, liquids - GC-MS - Internal - trial 2	
Monobutyltin (MBT) - CAS N°:78763-54-9 µg/kg	<4,4
Monobutyltin (MBT) - Sn - CAS N°:1118-46-3 µg/kg	<3,0
Dibutyltin (DBT) - CAS N°:818-08-6 µg/kg	<4,4
Dibutyltin (DBT) - Sn - CAS N°:683-18-1 µg/kg	<2,2
Tributyltin (TBT) - CAS N°:688-73-3 µg/kg	<4,4
Tributyltin (TBT) - Sn - CAS N°:1461-22-9 µg/kg	<1,8
Tetrabutyltin (TTBT) - CAS N°:1461-25-2 µg/kg	<4,4
Tetrabutyltin (TTBT) - Sn - CAS N°:1461-25-2 µg/kg	<1,5
Monooctyltin (MOT) - CAS N°:3091-25-6 µg/kg	<4,4
Monooctyltin (MOT) - Sn - CAS N°:3091-25-6 µg/kg	<2,2
Dioctyltin (DOT) - CAS N°:870-08-6 µg/kg	<4,4
Dioctyltin (DOT) - Sn - CAS N°:3542-36-7 µg/kg	<1,5
Triphenyltin (TPhT) - CAS N°:76-87-9 µg/kg	<4,4
Triphenyltin (TPhT) - Sn - CAS N°:639-58-7 µg/kg	<1,5
Tricyclohexyltin (TCyT) - CAS N°:13121-70-5 µg/kg	<8,7
Tricyclohexyltin (TCyT) - Sn - CAS N°:3091-32-5 µg/kg	<2,8
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
Arsenic (As) - ICP-MS - DIN EN ISO 17294-2:2007-01 mod. - trial 2	
Arsenic (As) - CAS N°:7440-38-2 mg/kg	<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
Formaldehyde - Spectrophotometry - §64 LFGB B 82.02-1:1985-06 - trial 2	
Formaldehyde - CAS N°:50-00-0 mg/kg	<10
EOX/AOX - trial 2	
EOX (extractable organic halogens) mg/kg	<2
AOX (adsorbable organic halogens) mg/kg	<0,5

Brand	--
Manufacturer	--
Denomination	BD LOVE+GREEN
Batch n°	HBD8 16:31 2021.01.23 022S
VOC - LC-MS Check - 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

Brand	--
Manufacturer	--
Denomination	BD LOVE+GREEN
Batch n°	HBD8 16:31 2021.01.23 022S
Bisphenol A and F - 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
Organochlorine Pesticides and Pyrethroids (GC-ECD) - GC-ECD - ASU L 00.00-34:2010-09 - trial 2	
Screened pesticides	Not detected
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
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
Acenaphtylene (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
Allergens according to Regulation (EC) No 1223/2009 - 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

Brand Manufacturer Denomination Batch n°	-- -- BD LOVE+GREEN HBD8 16:31 2021.01.23 022S
Extractable content of 1,2-Benzene dicarboxylic acid, dihexyl ester in materials - GC-MS - CPSC-CH-C1001-09.4 - trial 2	
Diisohexylphthalate - CAS N°:68515-50-4 mg/kg	<5
Extractable content of 1,2-Benzene dicarboxylic acid, dipentyl ester in materials - GC-MS - CPSC-CH-C1001-09.4 - trial 2	
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 - trial 2 - For package PAWWA	
C6-C10 Mixed phthalates mg/kg	<50
Extractable content of di-n-octyl phthalate (DNOP) in materials - GC-MS - CPSC-CH-C1001-09.4 - trial 2	
Di-n-octylphthalate (DNOP) - CAS N°:117-84-0 mg/kg	<5
Extractable content of dicyclohexyl phthalate (DCP) in materials - GC-MS - CPSC-CH-C1001-09.4 - trial 2	
Dicyclohexylphthalat - CAS N°:84-61-7 mg/kg	<5
Extractable content of diisononyl phthalate (DINP) in materials - GC-MS - CPSC-CH-C1001-09.4 - trial 2	
Diisononylphtalate (DINP) - CAS N°:68515-48-0 mg/kg	<30
Extractable content of diisodecyl phthalate (DIDP) in materials - GC-MS - CPSC-CH-C1001-09.3 - trial 2	
Diisodecylphtalate (DIDP) - CAS N°:26761-40-0 mg/kg	<30
Extractable content of diisobutyl phthalate (DIBP) in materials - GC-MS - CPSC-CH-C1001-09.4 - trial 2	
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 - trial 2	
Di-n-butylphtalate - 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 - trial 2	
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 - trial 2	
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 - trial 2	
Bisethylhexylphtalate - CAS N°:117-81-7 mg/kg	<5
Extractable content of di-n-pentyl phthalate (DNPP) in materials - GC-MS - CPSC-CH-C1001-09.4 - trial 2	
Dipentylphtalate - CAS N°:131-18-0 mg/kg	<5
Extractable content of n-pentylisopentyl phthalate (PiPP) in materials - GC-MS - CPSC-CH-C1001-09.4 - trial 2	
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 - trial 2	
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 - trial 2	
Di-(2-methoxyethyl)phthalate (DMEP) - CAS N°:117-82-8 mg/kg	<10
Extractable content of diisoheptyl phthalate (DIHpP) in materials - GC-MS - CPSC-CH-C1001-09.4 - trial 2	
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 - trial 2	
Heptylnonylundecyl phthalate - CAS N°:68515-42-4 mg/kg	<50

4. PROTOCOL

EOX/AOX

The aim of this method is to search and quantify the organic halogen components (Extractable and Adsorbable: EOX and AOX):

Extractable (EOX): the extraction consists in extracting a part of organic halogen components in 2% sulphuric acid for 8 hat 40 °C. Then, the quantification is carried out by combustion in an oxygen stream coupled to a colorimetric micro detection of the organic halogen components.

Adsorbable (AOX): the extraction is performed by vapor distillation in presence of active carbon. The extracted organic halogens components are captured on the active carbon (containing the organic halogen components) in an oxygen stream coupled with a colorimetric micro detection.

The method of colorimetric micro detection determines the quantity of transformed material during an electrolysis reaction measuring the consumed or produced electricity quantity (in coulombs) (during combustion for example) of organic halogen components.
The analysis is performed on all the components of the product (on a mix of the whole product).

Allergens

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)

- 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

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.

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 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 - Internal -

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

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

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

Dioxins(17) |envi| materials - GC-MS/MS - Internal

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:
Tetrachlorodibenzodioxin, Pentachlorodibenzodioxin,Hexachlorodibenzodioxin (3 conformations), Heptachlorodibenzodioxin, Octachlorodibenzodioxin,Tetrachlorodibenzofuran,Pentachlorodibenzofuran (2 conformations), Hexachlorodibenzofuran (4 conformations), Heptachlorodibenzofuran (2 conformations), Octachlorodibenzofuran..
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 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 slightly higher.

Polychlorinated biphenyls (PCB) - GC-MS - DIN EN ISO 15318

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.

5. APPENDIX

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