



Despriet Gebroeders nv
Nijverheidsstraat 2
2235 HULSHOUT

Your notice of
22-02-2023

Your reference

Date
20-03-2023

Analysis Report 23.01041.01

Required tests :

Centexbel
Centexbel
Centexbel
Centexbel

LCMS screening (Reach SVHC)
Determination of the elemental composition (screening)
Determination of the composition using XRF-screening
Determination of the emission profile by thermal extraction.

Sample id	Information given by the client	Date of receipt
T2304364	RHDPE00-C3-IC	22-02-2023

Stijn Steuperaert
Order responsible

This report may be reproduced, as long as it is presented in its entire form, without written permission of Centexbel.
The results of the analysis cover the received samples. Centexbel is not responsible for the representativeness of the samples.
In assessing compliance with the specifications, we did not take into account the uncertainty on the test results.



Reference: T2304364 - RHDPE00-C3-IC

Reach SVHC conclusion

The results for the analysis on specific elements and substances show that the sample does not contain any of the compounds mentioned on the Reach candidate list of 10-06-2022 (substances of very high concern), in concentrations > 0.1 mass%.



Reference: T2304364 - RHDPE00-C3-IC

LCMS screening (Reach SVHC)

Date of ending the test	16-03-2023
Method used	Centexbel
Product standard	Reach SVHC_10-06-2022
Extraction method	Methanol/DMSO/ethyl acetate ultrasonic extract
Analytical method	LC-MS

Results

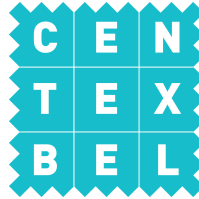
Reporting limit See table

The method is used to screen for the presence of organic REACH SVHC compounds (10-06-2022)*.

The results for the specific substances show that the sample does not contain the (mainly organic) compounds* on the Reach candidate list (substances of very high concern), in concentrations >0.1 mass%.

* 4-nonylphenols (branched+linear) (NP), Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with $\geq 0.1\%$ w/w of 4-nonylphenol, branched and linear (4-NP), 4-nonylphenols (branched+linear) ethoxylated (NPEO), 4-(1,1,3,3-tetramethylbutyl)phenol (OP), 4-(1,1,3,3-tetramethylbutyl)phenol ethoxylated (OPEO), Heptylphenol (branched + linear) (HP), RP-HP (with $\geq 0.1\%$ w/w 4-heptylphenol, branched and linear), 4-tert-butylphenol (PTBP), p-(1,1,- dimethylpropyl)phenol (PTAP), Phenol, alkylation products (mainly in para position) with C12-rich branched alkyl chains from oligomerisation, covering any individual isomers and/ or combinations thereof (PDDP), Bisphenol A (BPA), Bisphenol B (BPB) (=4,4'-(1-methylpropylidene), Pentadecafluorooctanoic acid (PFOA), (C9-C14) perfluorocarboxylicacids (PFA's), Pefluorononanoic acid (+Na and NH4 salts) (PFNA), Pefluorodecanoic acid (+Na and NH4 salts) (PFDA), Perfluorohexane-1-sulfonic acid and its salts (PFHxS), 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acryl halides (HFPO-DA) Perfluorobutane sulfonic acid (PFBS) and its salts, Ammonium pentadecafluorooctanoate (APFO), Azodicarbonamide (ADCA), Imidazoline-2-thiol, C.I. Direct Red 28, C.I. Direct Black 38, 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320), 2,4 di-tert butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327), 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328), 2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350), 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one (Irgacure 907), 2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone (Irgacure 369), Benzene-1,2,4-tricarboxylic acid 1,2 anhydride (trimellitic anhydride) (TMA), butyl 4-hydroxybenzoate, 2-methylimidazole, 1-vinylimidazole, 2,2-bis(bromomethyl)propane-1,3-diol (BMP), 2,2-dimethylpropan-1-ol, tribromo derivative/3-bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA), N-(hydroxymethyl)acrylamide

Components	C (%)
NP	< 0.0010
NPEO	< 0.010
OP	< 0.010
OPEO	< 0.010
HP	< 0.0010
PTBP	< 0.010
PTAP	< 0.010
PDDP	< 0.010
Bisfenol A	< 0.010
Bisfenol B	< 0.010
PFOA	< 0.010
PFA's	< 0.010
PFNA	< 0.010
PFDA	< 0.010
PFHxS	< 0.010
HFPO-DA	< 0.010
PFBS	< 0.010
APFO	< 0.010
ADCA	< 0.010
Imidazoline-2-thiol	< 0.010
C.I. Direct Red 28	< 0.010
C.I. Direct Black 38	< 0.010
UV 320	< 0.010
UV 327	< 0.010
UV 328	< 0.010
UV 350	< 0.010
Irgacure 907	< 0.010
Irgacure 369	< 0.010
TMA	< 0.010
Butyl 4-hydroxybenzoate	< 0.010
2-methylimidazole	< 0.010
1-vinylimidazole	< 0.010
BMP	< 0.010
TBNPA	< 0.010
N-(hydroxymethyl)acrylamide	< 0.010



Reference: T2304364 - RHDPE00-C3-IC

Determination of the elemental composition (screening)

Date of ending the test 09-03-2023
 Method used Centexbel
 Product standard Reach SVHC_10-06-2022

Sample preparation Mineralization using concentrated acids in a microwave.
 Determination ICP-OES

Results
 Determination of B (boron)

Metals	Reporting limit mg/kg	Concentration mg/kg
B (boron)	20.0	< 20.0

The result of the Boron determination indicates compounds* of the REACH SVHC list (10-06-2022) are not present in the samples in concentrations >0.1 %

*boric acid, disodium tetraborate- anhydrous; tetraboron disodium heptaoxide- hydrate, diboron trioxide, sodiumperoxometaborate, sodiumperborate, disodium octaborate, orthoboric acid, sodium salt, Orthoboric acid, sodium salt

Reference: T2304364 - RHDPE00-C3-IC

Determination of the composition using XRF-screening

Date of ending the test 13-03-2023
Method used Centexbel
Product standard Reach SVHC_10-06-2022

Sample preparation Homogenization, weighing, determination of thickness, sample presentation under vacuum

Determination X-rays fluorescence. Screening of the elements from sodium (11) up to uranium (92) using an EDX detector. Semi-quantitative measurements are performed using Uniquant based on a fundamental parameter method.

Results

Reporting limit (mass %) 0.01

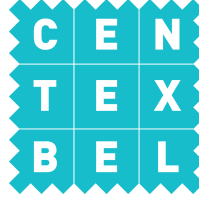
Matrix Light Polymer

Element	Mass %
As	≤ 0.010
Co	≤ 0.010
Cr	≤ 0.010
Pb	≤ 0.010
Sn	≤ 0.010
Br	≤ 0.010
Zr	≤ 0.010
Al	≤ 0.010
Si	≤ 0.010
Cd	≤ 0.010

Specific screening for elements indicating possible presence of Reach SVHC compounds (10-06-2022)*

The results for the specific elements show that the sample does not contain the (mainly inorganic) compounds* on the Reach candidate list (substances of very high concern), in concentrations >0.1 mass%.

* diarsenic tri- et pentoxide, arsenic acid, calcium arsenate, leadhydrogenarsenate, triethylarsenate, cobaltdiacetate, cobaltsulphate, cobaltdichloride, cobaltcarbonate, cobaltdinitrate, cadmium, cadmium oxide, cadmium chloride, cadmium sulphide, cadmium fluoride, cadmium sulphate, cadmium nitrate, cadmium hydroxide, cadmium carbonate, potassium chromate and dichromate, sodium chromate and dichromate, chromiumtrioxide, ammoniumdichromate, strontiumchromate, , chromic and dichromic acid, oligomers of chromic and dichromic acid, pentazincchromate octahydroxide, dichromium tris(chromate), potassium hydroxyoctaoxidizincatedichromate, lead, lead chromate and pigments based on lead chromate, Orange lead (lead tetroxide), Pyrochlore antimony lead yellow, Lead monoxide, Trilead bis(carbonate)dihydroxide, leaddinitrate,



leadoxidesulfate, Lead titanium trioxide, Silicic acid, lead salt, Lead titanium zirconium oxide, Pentalead tetraoxide sulphate, Trilead dioxide phosphonate, Tetralead trioxide sulphate, Lead bis(tetrafluoroborate), Tetraethyllead, Leaddiazide - leadazide, leaddipicrate, leadstyphnate, Lead cyanamidate, [Phthalato(2-)]dioxotrilead, Dioxobis(stearato)trilead, Acetic acid lead salt(basic), C16-C18 fatty acid lead salts, Sulfurous acid lead salt (dibasic), Lead(II) bis(methanesulfonate), Lead di (acetate), HBCDD, DecaBDE, bistributyltin oxide, dibutyltin dichloride, dibutylbis(pentane-2,4-dionato-O,O')tin, aluminosilicate, silicic acid barium salt (lead doped), refractory ceramic fibres, zirconia aluminosilicate refractory ceramic fibres, trixylyl phosphate, 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE), reaction mass of DOTE and MOTE (2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate)

Diocetyl tin bis(fatty acyloxy) derivs. with C12 as the predominant carbon number

Reference: T2304364 - RHDPE00-C3-IC

Determination of the emission profile by thermal extraction.

Date of ending the test 14-03-2023
Method used Centexbel
Product standard Reach SVHC_10-06-2022

Sample preparation One or more 1 cm diameter samples are heated in a glass tube at a fixed temperature under an inert gas flow. The gas flow is lead over a tenax filled tube where volatile organic compounds (VOC's) are trapped. The tenax tube with the VOC's is thermally desorbed. Released VOC's are cryo trapped and injected into a GCMS.

Temperatuur 120°C
Time 30'
Analytical method Gas chromatography with Agilent MSD detector

Results

As conditions 120°C and 30' were used. These relate to the conditions used eg in VDA 278 to evaluate fogging behaviour of plasticisers. For the more volatile VOC's semi-quantitative results (µg/g) can be obtained while for the heavier VOC's and SVOC's it is a screening method for their presence. If present in higher concentrations only part of the products have already evaporated (results as ng/min.g).

Specific screening for substances indicating possible presence of Reach SVHC compounds (10-06-2022)*

The results for the specific substances show that the sample does not contain the compounds* on the Reach candidate list (substances of very high concern), in concentrations >0.1 %.

* Anthracene, anthracene oils, anthracene pastes, benzo(a) pyrene, benzo(a)anthracene, fluoranthene, benzo(k)fluoranthene, phenanthrene, pyrene, chrysene, benzo(ghi)perylene, pitch coal tar (high temp), dibutylphthalate (DBP), diisobutylphthalate (DiBP), Bis(2-methoxyethyl) phthalate (DMEP), benzylbutylphthalate (BBP), bis-(2-ethylhexyl)phthalate (DEHP), 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DHIP), 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP), 1,2-benzenedicarboxylic acid, C6-C8-C10-alkylesters with ≥ 0.3% of dihexyl phthalate (Di(C6-C10)alkylphthalate esters, diisopentylphthalate (DIPP), N-pentyl-isopentylphthalate, dipentylphthalate (DPP), dipentylphthalate (branched, linear), dihexylphthalate (DHP), dicyclohexyl phthalate (DCHP), dihexylphthalate (branched, linear), diisohexyl phthalate, Cyclohexane-1,2-dicarboxylic anhydrides (Hexahydrophthalic anhydrides - HHPA), Hexahydromethylphthalic anhydrides (MHHPA), 3-benzylidene camphor;3-BC, 2,2-bis(4'-hydroxyphenyl)-4-methylpentane, 2,4-dinitrotoluene, 2,4-diaminotoluene, 4,4'- Diaminodiphenylmethane (MDA), Formaldehyde- oligomeric reaction products with aniline, o-Anisidine, o-Toluidine, 4,4' -methylenedi-o-toluidine, 2,2'-dichloro-4,4'-methylenedianiline, diamonidiphenylether and its salts, p-aminoazobenzene, p-cresidine, o-aminoazotoluene, biphenyl-4-ylamine, 3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine hexabromocyclododecane (HBCDD), trischloroethylphosphate, trixylylphosphate, Dechlorane Plus, C10-C13 chloroalkanes, Phenolphthalein, musk xylene,formamide, acrylamide, N-methylacetamide, N,N-dimethylacetamide, N,N' -dimethylformamide, 1-methyl-2-pyrrolidone, trichloroethylene, 1,2,3-trichloropropane, 1,2-dichloroethane, 1-bromopropane, 1,2-Diethoxyethane, EGDME, TEGDME, bis(2-methoxyethyl) ether, Bis(2-(2-methoxyethoxy)ethyl)ether, Furan, propylene oxide, 2-methoxyethanol, 2-ethoxyethanol, 2-ethoxyethylacetate, 2-methoxyethyl

acetate, 4-(1,1,3,3-tetramethylbutyl)phenol, 4-Nonylphenol (branched+linear), Dinoseb, TGIC, β -TGIC, Michler's ketone, Michler's base, C.I. Basic Violet 3, C.I. Solvent Blue 4, C.I. Basic Blue 26, 4,4'-bis(dimethylamino)-4''-(methylamino) trityl alcohol, methoxyacetic acid, dimethylsulphate, diethylsulphate, 1,3-propanesultone, nitrobenzene, karanal, octamethylcyclotetrasiloxane(D4), decamethylcyclopentasiloxane(D5), dodecamethylcyclohexasiloxane(D6), terphenyl; hydrogenated, ethylenediamine(EDA), Bistributyltinoxide is detected along with the inorganic compounds using XRF

2-(4-tert-butylbenzyl)propionaldehyde and its individual stereoisomers (only screened for 2-(4-tert-butylbenzyl)propionaldehyde), 2,3-dibromo-1-propanol (2,3-DBPA), Glutaral, Medium-chain chlorinated paraffins (MCCP), 1,4-dioxane, tris(2-methoxyethoxy)vinylsilane, 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol, (\pm)-1,7,7-trimethyl-3-[(4-methylphenyl)methylene]bicyclo[2.2.1]heptan-2-one covering any of the individual isomers and/or combinations thereof (4-MBC), S-(tricyclo(5.2.1.0'²,6)deca-3-en-8(or 9)-yl O-(isopropyl or isobutyl or 2-ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate

A2301041 T2304364

**Despriet Gebroeders nv, Hulshout
RHDPE00-C3-IC**

Group	MReach Requested	CAS	tR min	Apparatus Gerstel	
				ng/min.g	μ g/g (30', 120°C)
F001	Diisobutylphthalate (DiBP)	84-69-5	36,27	-	-
F002	Dibutylphthalate (DBP)	84-74-2	37,99	-	-
F003	Bis(2-methoxyethyl)phthalate (DMEP)	117-82-8	38,42	-	-
F004	Diisopentylphthalate (DiPP)	605-50-5	40,34	-	-
F005	N-pentylisopentylphthalate	776297-69-9	41,25	-	-
F006	Dipentylphthalate (DPP)	131-18-0	42,22	-	-
F007	Diisohexyl phthalate	71850-09-4	45,67	-	-
F008	Benzylbutylphthalate (BBP)	85-68-7	48,08	-	-
F009	Dihexylphthalate (DHP)	84-75-3	48,34	-	-
F010	Dicyclohexylphthalate	84-61-7	54,53	-	-
F011	Di-n-heptyl phthalate	3648-21-3	55,20	-	-
F012	Bis-(2-ethylhexyl)phthalate (DEHP)	117-81-7	55,49	-	-
X334	C6-C8 phthalates, C7 rich (DHIP)	71888-89-6	49,53	-	-
X335	C7-C11 phthalates (DHNUP)	68515-42-4	63,40	-	-
X369	Hexahydrophthalic anhydrides	85-42-7	25,16	-	-
X371	Dipentylphthalate isomers	84777-06-0	38,63	-	-
X392	Hexahydromethylphthalic anhydrides	25550-51-0	26,84	-	-
X409	Dihexylphthalates, branched+linear	68515-50-4	47,52	-	-
X417	Di(C6-C10)alkyl phthalate >0,3%DHP	68515-51-5	47,45	-	-
X418	Di(C6/C8/C10)alkyl phthalate >0,3%DHP	68648-93-1	46,63	-	-
D004	Phenanthrene	85-01-8	35,03	-	-
D005	Anthracene	120-12-7	35,24	-	-
D006	Fluoranthene	206-44-0	40,68	-	-
D007	Pyrene	129-00-0	41,93	-	-
D008	Benz(a)anthracene	56-55-3	53,18	-	-
D009	Chrysene	218-01-9	53,43	-	-
E005	Benzo[k]fluoranthene	207-08-9	60,65	-	-
E007	Benzo[a]pyrene	50-32-8	62,62	-	-
E009	Benzo[ghi]perylene	191-24-2	75,30	-	-
X528	Terphenyl, hydrogenated (cluster)	61788-32-7	39,14	-	-

A2301041 T2304364

Despriet Gebroeders nv, Hulshout
RHDPE00-C3-IC

Group	MReach2			Apparatus	Gerstel
	Requested	CAS	tR min	ng/min.g	µg/g (30', 120°C)
A001	Furan	110-00-9	3,81	-	-
A002	1-Bromopropane	106-94-5	5,29	-	-
K002	2-Methoxyethanol	109-86-4	5,38	-	-
K003	1,2-Dichloroethane	107-06-2	5,56	-	-
A003	Ethylenediamine	107-15-3	5,84	-	-
K004	1,2-Dimethoxyethane	110-71-4	5,84	-	-
X394	Propylenoxide	75-56-9	6,39	-	-
A004	Formamide	75-12-7	6,34	-	-
K005	Trichloroethylene	79-01-6	6,86	-	-
K006	2-Ethoxyethanol	110-80-5	7,08	-	-
A005	Dimethylformamide (DMF)	68-12-2	8,26	-	-
X372	Methoxyacetic acid	625-45-6	7,97	-	-
K007	1,2-Diethoxyethane	629-14-1	9,58	-	-
A007	N-methylacetamide	79-16-3	9,54	-	-
H001	1,4-Dioxane	123-91-1	6,87	-	-
A008	Zoldine MS+ (3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine)	143860-04-2	11,21	-	-
K008	2-Methoxyethyl acetate	110-49-6	10,44	-	-
X379	Dimethyl Sulphate	77-78-1	10,27	-	-
A009	Acrylamide	79-06-1	10,61	-	-
A010	N,N-Dimethylacetamide	127-19-5	11,01	-	-
K012	2-Ethoxyethylacetate	111-15-9	12,64	-	-
K013	1,2,3-Trichloropropane	96-18-4	12,78	-	-
K014	Bis(2-methoxyethyl)ether	111-96-6	14,01	-	-
X378	Diethyl Sulphate	64-67-5	16,40	-	-
A012	N-methyl-2-pyrrolidone	872-50-4	16,16	-	-
X415	1,3-Propanesultone	1120-71-4	19,47	-	-
A013	1,2-Bis(2-methoxyethoxy)ethane	112-49-2	22,07	-	-
H004	Bis(2-(2-methoxyethoxy)ethylether	143-24-8	28,72	-	-
G002	4-(1,1,3,3-Tetramethylbutyl)phenol	140-66-9	31,40	-	-
X367	4-Nonylphenol (cluster)	104-40-5	33,18	-	-
X416	Karanal	117933-89-8	34,46	-	-
X342	Formaldehyde/aniline oligomeric react prods	25214-70-4	40,98	-	-
X363	β-TGIC	59653-74-6	45,98	-	-
X346	Phenolphthalein	77-09-8	45,53	-	-
X366	TGIC	2451-62-9	46,08	-	-
H008	2,2'-Methylene-bis(6-tert-butyl-4-methylphenol)	119-47-1	51,32	-	-

A2301041 T2304364

Despriet Gebroeders nv, Hulshout
RHDPE00-C3-IC

Group	MReach3			Apparatus	Gerstel
	Requested	CAS	tR min	ng/min.g	µg/g (30', 120°C)
B001	o-Toluidine	95-53-4	17,66	-	-
B002	o-Anisidine	90-04-0	20,62	-	-
B003	p-Cresidine	120-71-8	23,32	-	-
B004	2,4-Diaminotoluene	95-80-7	25,75	-	-
B005	Biphenyl-4-ylamine	92-67-1	34,00	-	-
B006	4-Aminoazobenzene	60-09-3	40,29	-	-
B007	4,4'-Oxydianiline and its salts	101-80-4	40,66	-	-
B008	4,4'-Diaminodiphenylmethane	101-77-9	41,16	-	-
B009	o-Aminoazotoluene	97-56-3	45,35	-	-
B010	4,4'-Methylenedi-o-toluidine	838-88-0	45,78	-	-
B011	2,2'-Dichloro-4,4'-methylenedianiline	101-14-4	52,77	-	-
C001	Nitrobenzene	98-95-3	17,98	-	-
C003	2,4-Dinitrotoluene	121-14-2	29,07	-	-
C004	Dinoseb	88-85-7	35,40	-	-
C005	5-Tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	36,35	-	-
G003	TCEP (tri(2-chloroethyl)phosphate)	115-96-8	33,72	-	-
G004	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one	15087-24-8	37,88	-	-
H007	1,7,7-Trimethyl-3-[(4-methylphenyl)methylene]-bicyclo[2.2.1]heptan-2-one	36861-47-9	40,50	-	-
G005	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	71868-10-5	45,96	-	-
G006	Michlers' base	101-61-1	48,38	-	-
G007	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	49,50	-	-
G008	Hexabromocyclododecane	3194-55-6	60,27	-	-
G009	Michlers' ketone	90-94-8	61,92	-	-
G010	Trixylylphosphate	25155-23-1	63,32	-	-
X419	Dechlorane plus	13560-89-9	55,83	-	-
H003	2,3-Dibromo-1-propanol	96-13-9	17,89	-	-
X313	Short chain chlorinated paraffins	85535-84-8	31,98	-	-
X702	Medium chain chlorinated paraffins	85535-85-9	42,00	-	-
X336	Pitch, coal tar, high temp	65996-93-2	40,63	-	-
E001	Octamethylcyclotetrasiloxane	556-67-2	16,51	-	-
E002	Decamethylcyclopentasiloxane	541-02-6	21,23	-	-
E003	Dodecamethylcyclohexasiloxane	540-97-6	25,84	-	-
H006	Tris(2-methoxyethoxy)vinylsilane	1067-53-4	29,48	-	-
H002	Glutaral	111-30-8	11,33	-	-
H005	2-(4-tert-butylbenzyl)propionaldehyde	80-54-6	29,60	-	-

Remark: S-(tricyclo(5.2.1.0².6)deca-3-en-8(or 9)-yl O-(isopropyl or isobutyl or 2-ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate could not be determined specifically due to the unavailability of analytical standard - the chromatogram has however been searched for possible presence.