Govaerts Recycling nv
Kolmenstraat 1324
3570 ALKEN

Your notice of	Your reference	Date
19-08-2025	52504082	22-09-2025

Analysis Report 25.04469.01

Required tests :

Centexbel	**Determination of the elemental composition (screening)**
Centexbel	**Determination of the composition using XRF-screening**
Centexbel	**Detection of ceramic fibres**
Centexbel	**LCMS screening (Reach SVHC)**
Centexbel	**Determination of the emission profile by thermal extraction.**
EN 17681-1 (2025)	**Determination of per and poly fluorinated compounds (PFCs)**
EN 17681-1 (2025)	**Per- and Polyfluoroalkyl Substances (PFAS)**
EPA 8270E (2018)	**Determination of semi volatile organic compounds (POP)**
Centexbel	**Determination of the limited FR products (POP)**
OEKO-TEX® (2024)	**Determination of PCP, OPP and chlorinated phenols**
ISO 22818 (2021)	**Determination of chloroparaffins and dechlorane plus**

Sample id	Information given by the client	Date of receipt
T2516430	PE/PP - black	19-08-2025

Stijn Steuperaert
Order responsible

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.

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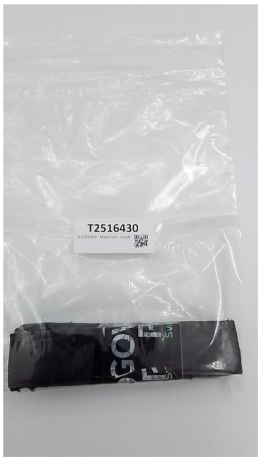
Samples

T2516430
PE/PP - black



Reference: **T2516430 - PE/PP - black**

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 21-01-2025 (substances of very high concern), in concentrations > 0.1 mass%.

Reference: T2516430 - PE/PP - black

Determination of the elemental composition (screening)

Date of ending the test	26-08-2025
Method used	Centexbel
Product standard	Reach SVHC_21-01-2025
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 (21-01-2025) 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, barium diboron tetraoxide

Reference: **T2516430 - PE/PP - black**

Determination of the composition using XRF-screening

Date of ending the test	25-08-2025
Standard used	Centexbel
Product standard	Reach SVHC_21-01-2025
Sample preparation	Cutting, weighing + determination of thickness, presentation under vacuum
Determination	X-ray fluorescence. Screening of element selection using a WD detector. Semi-quantitative measurements performed using QuantExpress based on a fundamental parameter method.

Results

Matrix CH2

		glossy side	dull side
Element	Reporting limit (mass %)	Concentration (w%)	Concentration (w%)
As	0.010	<RL	<RL
Co	0.010	<RL	<RL
Cr	0.0070	<RL	<RL
Pb	0.010	<RL	<RL
Sn	0.0070	<RL	<RL
Br	0.010	<RL	<RL
Zr	0.010	<RL	<RL
Cd	0.0050	<RL	<RL
Al	0.0080	0.0381	0.0714
Si	0.010	0.0761	0.0694

* RL = reporting limit

Specific screening for elements indicating possible presence of Reach SVHC compounds (21-01-2025)*.
Presence of a significant amount of Al & Si. To exclude the unlikely presence of aluminosilicate based ceramic fibers with certainty an additional SEM screening is necessary. The results for the other specific elements show that the sample does not contain the other (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 hydroxyoctaoxodizincatedichromate, 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, bistributyltinoxide, dibutyltindichloride, dibutylbis(pentane-2.4-dionato-O,O')tin, silicic acid barium salt (lead doped), aluminosilicate 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), 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (MOTE), Dioctyltin bis(fatty acyloxy) derivs. with C12 as the predominant carbon number, 1,2 Bis(2,4,6-tribromophenoxyethane) (BTBPE), Tetrabromobisphenol A (TBBPA)

Reference: T2516430 - PE/PP - black

Detection of ceramic fibres

Date of ending the test	04-09-2025
Standard used	Centexbel
Apparatus	FEG-SEM electron microscope with elements-analysis

Results

Presence of ceramic fibres:	Not present

Reference: T2516430 - PE/PP - black

LCMS screening (Reach SVHC)

Date of ending the test	04-09-2025
Method used	Centexbel
Product standard	Reach SVHC_21-01-2025
Extraction method	Methanol/DMSO/ethyl acetate ultrasonic extract
Analytical method	LC-DAD-MS/MS

Results

Reporting limit	See table

The method is used to screen for the presence of organic REACH SVHC compounds (21-01-2025)*.
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 ≥ 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 >=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-(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-hydxybenzoate, 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, Perfluoroheptanoic acid (PFHpA), Melamine, Isobutyl 4-hydroxybenzoate, Bisphenol S,Tetrabromobisphenol A (TBBPA); Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (DPPO); Bis (α ,α -dimethylbenzyl)peroxide; Triphenyl phosphate

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
Bisphenol A	< 0.010
Bisphenol B	< 0.010
Bisphenol S	< 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 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
PFHpa	< 0.010
Melamine	< 0.010
isobutyl 4-hydroxybenzoate	< 0.010
TBBPA	< 0.010
DPPO	< 0.010
Bis (α,α-dimethylbenzyl)peroxide	< 0.010
Triphenyl phosphate	< 0.010

Reference: T2516430 - PE/PP - black

Determination of the emission profile by thermal extraction.

Date of ending the test	04-09-2025
Method used	Centexbel
Product standard	Reach SVHC_21-01-2025
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	140°C
Time	30'
Analytical method	Gas chromatography with Agilent MSD detector

Results

The method is based on 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 (21-01-2025)*.
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, dipenthylphtalate (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 sals, 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, 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, (±)-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, reaction mass of 2,2,3,3,5,5,6,6-octafluoro-4-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)morpholine and 2,2,3,3,5,5,6,6-octafluoro-4-(heptafluoropropyl)morpholine, Bis(4-chlorophenyl) sulphone, Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol (Phenol, methylstyrenated EC nr 270-966-8; cas nr 68512-30-1), Bumetrizole (UV-326), 2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327), 2-(dimethylamino)-2-[(4-methylphenyl)methyl]-1-[4-(morpholin-4-yl)phenyl]butan-1-one, 2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol (UV-329), 2,4,6-tri-tert-butylphenol, Octamethyltrisiloxane, O,O,O-triphenyl phosphorothioate (TPPT), Reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives, Perfluamine, 6-[(C10-C13)-alkyl-(branched, unsaturated)-2,5-dioxopyrrolidin-1-yl]hexanoic acid (Tetra-PSCA)

A2504469 **T2516430** **Govaerts Recycling nv, Alken**
PE/PP - black

Group MReach **Apparatus** Gerstel

	Requested	CAS	tR min	ng/min.g	µg/g (30', 140°C)
F001	Diisobutylphthalate (DiBP)	84-69-5	20,50	-	-
F002	Dibutylphthalate (DBP)	84-74-2	21,45	-	-
F003	Bis(2-methoxyethyl)phthalate (DMEP)	117-82-8	21,70	-	-
F004	Diisopentylphthalate (DiPP)	605-50-5	22,84	-	-
F005	N-pentylisopentylphthalate	776297-69-9	23,40	-	-
F006	Dipentylphthalate (DPP)	131-18-0	24,01	-	-
F007	Diisohexyl phthalate	71850-09-4	26,22	-	-
F008	Benzylbutylphthalate (BBP)	85-68-7	27,84	-	-
F009	Dihexylphthalate (DHP)	84-75-3	27,98	-	-
F010	Dicyclohexylphthalate	84-61-7	32,18	-	-
F011	Di-n-heptyl phthalate	3648-21-3	32,58	-	-
F012	Bis-(2-ethylhexyl)phthalate (DEHP)	117-81-7	32,74	-	-
X071	C6-C8 phthalates, C7 rich (DHIP)	71888-89-6	28,33	-	-
X072	C7-C11 phthalates (DHNUP)	68515-42-4	37,10	-	-
X085	Hexahydrophthalic anhydrides	85-42-7	16,86	-	-
X086	Dipentylphthalate isomers	84777-06-0	20,33	-	-
X090	Hexahydromethylphthalic anhydrides	25550-51-0	14,54	-	-
X103	Dihexylphthalates, branched+linear	68515-50-4	26,32	-	-
X107	Di(C6-C10)alkyl phthalate >0,3%DHP	68515-51-5	26,25	-	-
X108	Di(C6/C8/C10)alkyl phthalate >0,3%DHP	68648-93-1	25,53	-	-
D004	Phenanthrene	85-01-8	20,01	-	-
D005	Anthracene	120-12-7	20,12	-	-
D006	Fluoranthene	206-44-0	23,21	-	-
D007	Pyrene	129-00-0	24,00	-	-
D008	Benz(a)anthracene	56-55-3	31,26	-	-
D009	Chrysene	218-01-9	31,44	-	-
E006	Benzo[k]fluoranthene	207-08-9	35,52	-	-
E008	Benzo[a]pyrene	50-32-8	36,55	-	-
E010	Benzo[ghi]perylene	191-24-2	42,83	-	-
X211	Terphenyl, hydrogenated (cluster)	61788-32-7	20,84	-	-
G009	Bumetrizole (UV-326)	3896-11-5	32,87	-	-
G010	2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol (UV-329)	3147-75-9	33,15	-	-
G011	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	34,34	-	-
X453	6-[(C10-C13)-alkyl-(branched, unsaturated)-2,5-dioxopyrrolidin-1-yl]hexanoic acid	2156592-54-8	30,00	-	-

A2504469 **T2516430**

Govaerts Recycling nv, Alken
PE/PP - black

Group MReach2 **Apparatus** Gerstel

	Requested	CAS	tR min	ng/min.g	µg/g (30', 140°C)
A001	Furan	110-00-9	3,86	-	-
A002	1-Bromopropane	106-94-5	5,33	-	-
K002	2-Methoxyethanol	109-86-4	5,46	-	-
K003	1,2-Dichloroethane	107-06-2	5,61	-	-
A003	Ethylenediamine	107-15-3	6,32	-	-
K004	1,2-Dimethoxyethane	110-71-4	5,90	-	-
X091	Propylenoxide	75-56-9	5,44	-	-
A004	Formamide	75-12-7	6,34	-	-
K006	Trichloroethylene	79-01-6	6,77	-	-
K007	2-Ethoxyethanol	110-80-5	6,97	-	-
A005	Dimethylformamide (DMF)	68-12-2	7,85	-	-
X087	Methoxyacetic acid	625-45-6	7,02	-	-
K008	1,2-Diethoxyethane	629-14-1	8,72	-	-
A007	N-methylacetamide	79-16-3	8,74	-	-
H001	1,4-Dioxane	123-91-1	6,78	-	-
A008	Zoldine MS+ (3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine)	143860-04-2	9,65	-	-
K009	2-Methoxyethyl acetate	110-49-6	9,23	-	-
X089	Dimethyl Sulphate	77-78-1	5,07	-	-
A009	Acrylamide	79-06-1	9,35	-	-
A010	N,N-Dimethylacetamide	127-19-5	9,59	-	-
K013	2-Ethoxyethylacetate	111-15-9	10,39	-	-
K014	1,2,3-Trichloropropane	96-18-4	10,50	-	-
K015	Bis(2-methoxyethyl)ether	111-96-6	11,06	-	-
X088	Diethyl Sulphate	64-67-5	11,10	-	-
A012	N-methyl-2-pyrrolidone	872-50-4	12,09	-	-
X105	1,3-Propanesultone	1120-71-4	14,17	-	-
A013	1,2-Bis(2-methoxyethoxy)ethane	112-49-2	14,49	-	-
H004	Bis(2-(2-methoxyethoxy)ethylether	143-24-8	17,19	-	-
H007	2,4,6-tri-tert-butylphenol	732-26-3	18,38	-	-
E004	2-phenylpropene/phenol: Oligo/alkylation reaction products-marker 1	6362-80-7	20,10	-	-
X106	Karanal	117933-89-8	19,16	-	-
X076	Formaldehyde/aniline oligomeric react prods	25214-70-4	20,68	-	-
X081	β-TGIC	59653-74-6	24,68	-	-
X077	Phenolphtalein	77-09-8	25,33	-	-
X082	TGIC	2451-62-9	24,88	-	-
H009	2,2'-Methylene-bis(6-tert-butyl-p-cresol)	119-47-1	29,97	-	-
X067	Short chain chlorinated paraffins	85535-84-8	16,68	-	-
X334	Medium chain chlorinated paraffins	85535-85-9	21,80	-	-

A2504469 **T2516430**

Govaerts Recycling nv, Alken
PE/PP - black

Group MReach3

Apparatus Gerstel

	Requested	CAS	tR min	ng/min.g	µg/g (30', 140°C)
B001	o-Toluidine	95-53-4	12,73	-	-
B002	o-Anisidine	90-04-0	13,96	-	-
B003	p-Cresidine	120-71-8	15,07	-	-
B004	2,4-Diaminotoluene	95-80-7	16,09	-	-
B005	Biphenyl-4-ylamine	92-67-1	19,48	-	-
B006	4-Aminoazobenzene	60-09-3	22,90	-	-
B007	4,4'-Oxydianiline and its salts	101-80-4	23,12	-	-
B008	4,4'-Diaminodiphenylmethane	101-77-9	23,43	-	-
B009	o-Aminoazotoluene	97-56-3	26,09	-	-
B010	4,4'-Methylenedi-o-toluidine	838-88-0	26,36	-	-
B011	2,2'-Dichloro-4,4'-methylenedianiline	101-14-4	30,98	-	-
C002	Nitrobenzene	98-95-3	12,89	-	-
C004	2,4-Dinitrotoluene	121-14-2	17,44	-	-
C005	Dinoseb	88-85-7	20,10	-	-
C006	5-Tert-butyl-2,4,6trinitro-m-xylene (musk xylene)	81-15-2	20,60	-	-
G003	TCEP (tri(2-chloroethyl)phosphate)	115-96-8	19,29	-	-
X451	O,O,O-triphenyl phosphorothioate	597-82-0	31,37	-	-
G004	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one	15087-24-8	21,47	-	-
H008	1,7,7-Trimethyl-3-[(4-methylphenyl)methylene]-bicyclo[2.2.1]heptan-2-one	36861-47-9	23,01	-	-
G005	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	71868-10-5	26,48	-	-
X436	2-(4-methylbenzyl)-2-(dimethylamino)-1-(4-morpholinophenyl)butan-1-one	119344-86-4	36,94	-	-
G006	Michlers' base	101-61-1	28,05	-	-
G007	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	28,77	-	-
X452	Perfluamine	338-83-0	3,66	-	-
G008	Hexabromocyclododecane	3194-55-6	31,94	-	-
G012	Michlers' ketone	90-94-8	36,14	-	-
G013	Trixylylphosphate	25155-23-1	36,36	-	-
X109	Dechlorane plus	13560-89-9	52,87	-	-
H003	2,3-Dibromo-1-propanol	96-13-9	12,85	-	-
X073	Pitch, coal tar, high temp	65996-93-2	20,33	-	-
E001	Octamethylcyclotetrasiloxane (D4)	556-67-2	12,13	-	-
E002	Decamethylcyclopentasiloxane (D5)	541-02-6	14,10	-	-
E003	Dodecamethylcyclohexasiloxane (D6)	540-97-6	15,99	-	-
X294	Octamethyltrisiloxane (L3)	107-51-7	10,54	-	-
H006	Tris(2-methoxyethoxy)vinylsilane	1067-53-4	17,28	-	-
H002	Glutaral	111-30-8	9,75	-	-
H005	2-(4-tert-butylbenzyl)propionaldehyde (lilial)	80-54-6	17,62	-	-
H010	Bis(4-chlorophenyl)sulphone	80-07-9	25,38	-	-

Remark: 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 and 2,2,3,3,5,5,6,6-octafluoro-4-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)morpholine + 2,2,3,3,5,5,6,6-octafluoro4-(heptafluoropropyl)morpholine could not be determined in a targeted approach due to the unavailability of the analytical standard - the chromatogram has however been searched for possible presence. Oligomerization and alkylation reaction products of 2-phenylpropene and phenol and triphenylthiophosphate and tertiary butylated phenyl derivatives - based on marker substances.

Reference: T2516430 - PE/PP - black

Determination of per and poly fluorinated compounds (PFCs)

Date of ending the test	03-09-2025
Standard used	EN 17681-1 (2025)
Deviation from the standard	Additional components determined
Extraction method	Ultrasonic extraction with alkaline methanol
Separation and detection	LC/MS/MS

Results

Compound	CAS no	Concentration (µg/kg)
PFBA	375-22-4	< 10
PFPeA	2706-90-3	< 10
PFHxA	307-24-4	< 10
PFHpA	375-85-9	< 10
PFOA	335-67-1	< 10
PFNA (C9-PFCA)	375-95-1	< 10
PFDA (C10-PFCA)	335-76-2	< 10
PFUnA (C11-PFCA)	2058-94-8	< 10
PFDoA (C12-PFCA)	307-55-1	< 10
PFTrDA (C13-PFCA)	72629-94-8	< 10
PFTeDA (C14-PFCA)	376-06-7	< 10
PFBS	375-73-5	< 10
PFHxS	355-46-4	< 10
PFHpS	375-92-8	< 10
PFDS	335-77-3	< 10
PFHxSA	41997-13-1	< 10
N-Me-PFHxSA	68259-15-4	< 10
HFPO-DA	13252-13-6	< 10
PF-3,7-DMOA	172155-07-6	< 10
4HPFUnA	34598-33-9	< 10
7HPFHpA	1546-95-8	< 10
4:2 FTS	757124-72-4	< 10
6:2 FTS	27619-97-2	< 10
8:2 FTS	39108-34-4	< 10
10:2 FTS	120226-60-0	< 10
4:2 FTOH	2043-47-2	< 200
6:2 FTOH	647-42-7	< 100
8:2 FTOH	678-39-7	< 100
10:2 FTOH	865-86-1	< 100
12:2 FTOH	39239-77-5	< 100

Compound	CAS no	Concentration (µg/m²)
PFOS	45298-90-6	< 0.20
PFOSA (FOSA)	754-91-6	< 0.20
N-MeFOSA	31506-32-8	< 0.20
N-EtFOSA	4151-50-2	< 0.20
N-MeFOSE	24448-09-7	< 0.20
N-EtFOSE	1691-99-2	< 0.20

Reference: **T2516430 - PE/PP - black**

Per- and Polyfluoroalkyl Substances (PFAS)

Date of ending the test	16-09-2025
Standard used	EN 17681-1 (2025)
Extraction method	Ultrasonic extraction with alkaline methanol
Analytical method	LC/MS/MS

Results

PFOA and its salts	
Components	**Concentration**
PFOA	< 10 µg/kg
PFOA and its salts; sum	< 10 µg/kg

PFOA related substances	
Components	**Concentration**
PFOA related substances; sum	< 100 µg/kg

PFOS, salts and derivatives	
Components	**Concentration**
PFOS, salts and derivatives; sum	< 1.0 µg/m²

PFHxS and its salts	
Components	**Concentration**
PFHxS	< 10 µg/kg
PFHxS and its salts; sum	< 10 µg/kg

PFHxS related substances	
Components	**Concentration**
PFHxS related substances; sum	< 10 µg/kg

C9-C14 PFCAs and salts	
Components	**Concentration**
C9-C14 PFCAs and salts; sum	< 10 µg/kg

C9-C14 PFCA related substances	
Components	**Concentration**
C9-C14 PFCA related substances; sum	< 100 µg/kg

PFHxA and its salts	
Components	**Concentration**
PFHxA and its salts; sum	< 10 µg/kg

PFHxA related substances	
Components	**Concentration**
6:2 FTS	< 10 µg/kg
6:2 FTOH	< 10 µg/kg
PFHxA related substances; sum	< 10 µg/kg

Other PFAS	
Components	**Concentration**

List of Analytes

PFOS, salts and derivatives:

No.	Name of Analytes	CAS-Nr.	No.	Name of Analytes	CAS-Nr.
1	Perfluorooctane sulphonic acid (PFOS)	1763-23-1	8	Perfluorooctane sulphonamide (PFOSA)	754-91-6
2	Potassium perfluorooctane sulfonate (PFOS-K)°	2795-39-3	9	N-Methylperfluorooctane sulphonamide (N-Me-FOSA)	31506-32-8
3	Lithium perfluorooctane sulfonate (PFOS-Li)°	29457-72-5	10	N-Ethylperfluorooctane sulphonamide (N-Et-FOSA)	4151-50-2
4	Ammonium perfluorooctane sulfonate (PFOS-NH4)°	29081-56-9	11	2-(N-Methylperfluorooctane-1- sulphonamido)-ethanol (N-Me- FOSE)	24448-09-7
5	Bis2(hydroxyethyl) ammonium perfluorooctane sulfonate (PFOS-NH(OH)2)°	70225-14-8	12	2-(N-Ethylperfluorooctane-1-sulphonamido)-ethanol (N-Et-FOSE)	1691-99-2
6	Tetraethyl ammonium heptadecafluorooctane sulfonate (PFOS- N(C2H5)4)°	56773-42-3	13	Didecyldimethyl ammonium perfluorooctane sulfonate (PFOS-N(C1OH21)2 (CH3)2)°	251099-16-8
7	Heptadecafluorooctanesulfonyl fluorid (PFOS-F)&	307-35-7	14	Perfluorooctanesulfonic acid, sodium salt (PFOS-Na)°	4021-47-0

PFOS and related substances expressed in µg/m² -reporting limit 1 µg/m²; ° salt, determined as acid & converts to PFOS

PFOA and its salts:

No.	Name of Analytes	CAS-Nr.	No.	Name of Analytes	CAS-Nr.
1	Perfluorooctanoic Acid (PFOA)	335-67-1	4	Silver Perfluorooctanoate (PFOA-Ag)°	335-93-3
2	Sodium Perfluorooctanoate (PFOA-Na)°	335-95-5	5	Ammonium pentadecafluorootanoate (APFO)°	3825-26-1
3	Potassium Perfluorooctanoate (PFOA-K)°	2395-00-8			

PFOA-related substances:

No.	Name of Analytes	CAS-Nr.	No.	Name of Analytes	CAS-Nr.
1	1H,1H,2H,2H- Perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	7	1H,1H,2H,2H-perfluorodecyl acrylate (8:2 FTA)*	27905-45-9
2	Methyl perfluorooctanoate (Me-PFOA) $	376-27-2	8	1H,1H,2H,2H-perfluorodecyl methacrylate (8:2 FTMA)*	1996-88-9
3	Ethyl perfluorooctanonate (Et-PFOA)$	3108-24-5	9	Perfluorodecyl ethanol (10:2 FTOH)	865-86-1
4	Perfluorooctanoyl fluoride (PFOA-F) $	335-66-0	10	1H,1H,2H,2H-Perfluorododecyl acrylate (10:2 FTA)*	17741-60-5
5	2H,2H,3H,3H-heptadecafluoro undecanoic acid (4HPFUnA)	34598-33-9	11	1H,1H,2H,2H-Perfluorododecyl methacrylate (10:2 FTMA)*	2144-54-9
6	2-Perfluoroctylethanol (8:2 FTOH)	678-39-7	12	Perfluorododecylethanol (12:2 FTOH)	39239-77-5

PFHxS and Its Salts:

No.	Name of Analytes	CAS-Nr.	No.	Name of Analytes	CAS-Nr.
1	Perfluorohexane sulfonic acid (PFHxS)	355-46-4	4	Ammonium perfluorohexane sulfonate (PFHxS-NH4)°	68259-08-5
2	Potassium perfluorohexane sulfonate (PFHxS-K)°	3871-99-6	5	Sodium perfluorohexane Sulfonate (PFHxS-Na)°	82382-12-5
3	Lithium perfluorohexane sulfonate (PFHxS-Li)°	55120-77-9 _			

PFHxS-related Substances:

No.	Name of Analytes	CAS-Nr.	No.	Name of Analytes	CAS-Nr.
1	N-Methylperfluoro-1-hexanesulfonamide (N-Me-FHxSA)	68259-15-4	2	Perfluorohexane sulfonamide (PFHxSA)	41997-13-1

PFHxA and its salts					
No.	**Name of Analytes**	**CAS-Nr.**	**No.**	**Name of Analytes**	**CAS-Nr.**
1	Pefluorohexanoic acid (PFHxA /C6-PFCA)	307-24-4	2	Ammonium perfluoro-n-hexanoate (APFHx)°	21615-47-4

PFHxA, related substances					
No.	**Name of Analytes**	**CAS-Nr.**	**No.**	**Name of Analytes**	**CAS-Nr.**
1	Perfluorohexyl ethanol (6:2 FTOH)	647-42-7	3	1H,1H,2H,2H-Perfluoro octyl acrylate (6:2 FTA)*	17527-29-6
2	Perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	4	1H,1H,2H,2H-Perfluorooctyl methacrylate (6:2 FTMA)*	2144-53-8

C9-C14 Perfluorocarboxylic acids (PFCAs) and their salts:					
No.	**Name of Analytes**	**CAS-Nr.**	**No.**	**Name of Analytes**	**CAS-Nr.**
1	Perfluoro-n-nonanoic acid (PFNA, C9-PFCA)	375-95-1	7	Ammonium Perfluorononanoate (PFNA-NH4)°	4149-60-4
2	Perfluoro-n-decanoic acid (PFDA, C10-PFCA)	335-76-2	8	Sodium Perfluorononanoate (PFNA-Na)°	21049-39-8
3	Perfluoroundecanoic acid (PFUnA, C11-PFCA)	2058-94-8	9	Ammonium Perfluorodecanoate (PFDA-NH4)°	3830-45-3
4	Perfluorododecanoic acid (PFDoA, C12-PFCA)	307-55-1	10	Sodium Perfluorodecanoate (PFDA-Na)°	3108-42-7
5	Perfluorotridecanoic acid (PFTrDA, C13-PFCA)	72629-94-8	11	Ammonium Perfluorododecanoate (PFDoDA-NH4)°	3793-74-6
6	Perfluorotetradecanoic Acid (PFTeDA, C14-PFCA)	376-06-7	12	Perfluoro-3-7-dimethyloctane carboxylate (PF-3,7-DMOA)	172155-07-6
C9-C14 PFCA- related substances:					
No.	**Name of Analytes**	**CAS-Nr.**	**No.**	**Name of Analytes**	**CAS-Nr.**
1	Perfluorodecane sulfonic acid (PFDSA)	335-77-3	8	1H,1H,2H,2H-Perfluorododecyl sulfonic acid (10:2 FTS)	120226–60–0
2	Sodium Perfluorodecanesulfonate (PFDS-Na)°	2806-15-7	9	2H,2H,3H,3H-heptadecafluoro undecanoic acid (4HPFUnA)	34598-33-9
3	Potassium Perfluorodecanesulfonate (PFDS-K)°	2806-16-8	10	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4
4	AmmoniumPerfluorodecanesulfonate (PFDS- NH4)°	67906-42-7	11	2-Perfluoroctylethanol (8:2 FTOH)	678-39-7
5	Perfluorodecyl ethanol (10:2 FTOH)	865-86-1	12	1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)*	27905-45-9
6	1H,1H,2H,2H-Perfluorododecyl acrylate (10:2 FTA)*	17741-60-5	13	H,1H,2H,2H-perfluorodecyl methactylate (8:2 FTMA)*	1996-88-9
7	1H,1H,2H,2H-Perfluorododecyl methacrylate (10:2 FTMA)*	2144-54-9	14	Perfluorododecylethanol (12:2 FTOH)	39239-77-5
Other PFAS					
No.	**Name of Analytes**	**CAS-Nr.**	**No.**	**Name of Analytes**	**CAS-Nr.**
1	2,3,3,3-tetrafluoro-2 (heptafluoro propoxy) propionic acid (HFPO-DA)	13252-13-6	7	Perfluoroheptanoic acid (PFHpA / C7-PFCA)	375-85-9
2	2,3,3,3-tetrafluoro-2 (heptafluoro propoxy) propionic acid fluoride§	21062-98-8	8	7H-Dodecafluoroheptanoic acid 7HPFHpA	1546-95-8
3	Ammonium 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionate°	62037-80-3	9	Perfluorobutane sulfonic acid (PFBS)	375-73-5
4	Potassium 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionate°	67118-55-2	10	Perfluoroheptane sulfonic acid (PFHpS)	375-92-8

5	Perfluorobutanoic acid (PFBA /C4-PFCA)	375-22-4	11	Perfluorobutyl ethanol (4:2 FTOH)	2043-47-2
6	Perfluoropentanoic acid (PFPeA /C5-PFCA)	2706-90-3	12	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2 FTS)	757124–72–4

Reporting limits: 10 µg/kg for most compounds, 100 µg/kg for the FTOHs (telomer alcohols) except for 4:2 FTOH (200 µg/kg)

°these substances are salts which are determined by the method as the corresponding acid – also other than the listed salts are covered

* substance is hydrolysed by the method and releases and contributes to the related telomer alcohol (n:2 FTOH)

$ substance is hydrolysed by the method and releases PFOA, contributing to the total amount of PFOA

§ substance is hydrolysed by the method and releases HFPO-DA, contributing to the total amount of HFPO-DA

Reference: **T2516430 - PE/PP - black**

Determination of semi volatile organic compounds (POP)

Date of ending the test 10-09-2025
Based on EPA 8270E (2018)

Analysis method GC/MS/MS
Determination limit 10 mg/kg

Results

Semivolatile organic compounds	C (mg/kg)
Aldrin	< 10.0
Chlordane	< 10.0
Dieldrine	< 10.0
Endrine	< 10.0
Heptachlor	< 10.0
Hexachlorobenzene	< 10.0
Mirex	< 10.0
Toxaphene	< 10.0
Polychlorinated biphenyl (PCB)	< 10.0
DDT	< 10.0
α-Hexachlorcyclohexane	< 10.0
β-Hexachlorcyclohexane	< 10.0
Chlordecone	< 10.0
Hexachlorobutadiene	< 10.0
Lindane	< 10.0
Pentachlorobenzene	< 10.0
Polychlorinated naphthalenes (PCN)	< 10.0
Technical endosulfan and its related isomers	< 10.0
Dicofol	< 10.0
Trifluralin	< 10.0
Methyl parathion	< 10.0

Reference: **T2516430 - PE/PP - black**

Determination of the limited FR products (POP)

Date of ending the test	11-09-2025
Standard used	Centexbel
Deviation from the standard	
Extraction method	Ultrasonic extraction with toluene/methanol
Separation and detection	APPI-LC/MS/MS
Components	TetraBDE (tetrabromodiphenylether), PentaBDE (pentabromodiphenylether), HexaBDE (hexabromodiphenylether), HeptaBDE (heptabromodiphenylether), DecaBDE (decabromodiphenylether), HBB (Hexabromobiphenyl), HBCDD (hexabromocyclododecane), Dechlorane plus
Results	
Determination limit	10 mg/kg

Compound	CAS no	C (mg/kg)
TetraBDE	40088-47-9	< 10.0
PentaBDE	32534-81-9	< 10.0
HexaBDE	36483-60-0	< 10.0
HeptaBDE	68928-80-3	< 10.0
DecaBDE	1163-19-5	< 10.0
HBB	36355-01-8	< 10.0
HBCDD	3194-55-6	< 10.0
Dechlorane plus	13560-89-9, et.al.	< 10.0

Reference: **T2516430 - PE/PP - black**

Determination of PCP, OPP and chlorinated phenols

Date of ending the test	27-08-2025
Based on	OEKO-TEX® (2024)
Extraction method	Microwave extraction with KOH
Analytical method	HRAM GC-MS
Determination limit	PCP: 0.02 mg/kg

Compounds	C (mg/kg)
PCP, its salts and esters	< 0.020

Reference: **T2516430 - PE/PP - black**

Determination of chloroparaffins and dechlorane plus

Date of ending the test	26-08-2025
Standard used	ISO 22818 (2021)
Extraction method	Ultrasonic extraction with toluene
Separation and detection	GC-MS-MS
Components	SCCP (C_{10}-C_{13}) MCCP (C_{14}-C_{17}) Dechlorane plus
Results	
Determination limit	50 mg/kg/dechlorane plus: 1 mg/kg

Quantitative determination with CI-MS

Compounds	C (mg/kg)
SCCP (C_{10}-C_{13})	< 50
MCCP (C_{14}-C_{17})	< 50

Compound	C (mg/kg)
Dechlorane plus	< 1.00