VERSALIS RECYCLED POLYSTYRENE (rPS) DECONTAMINATION TECHNOLOGY

NOVEL TECHNOLOGY

DATA MONITORING REPORT

Report required by Article 13 of Regulation (EU) 2022/1616

Data

30/07/2025

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1) Introduction

Versalis S.p.A. notified the Novel Technology "Recycled Polystyrene (rPS) Decontamination Technology" as "developer" under the Regulation 2022/1616 on 7th December 2023.

Recyclers using Versalis S.p.A. Novel Technology will produce pellets of decontaminated rPS suitable to be used up to 100% in food packaging applications in direct contact with food, as virgin material.

The enclosed report provides a summary of the data forthcoming from the monitoring, based on the latest information from the installation using the novel technology.

The industrial scale plant was started on 22/07/2024, producing decontaminated batches of 100 t (please refer to Annex 3 for the description of rPS Lot identification). Every batch has been analyzed in order to evaluate the concentration of all the substances with a molecular weight below 1000 Dalton (or g/mol) found in the input and output, by using the sampling plan and analytical methods described in this document (Paragraphs 8 and 9). In particular, the maximum molecular weight detection limit is around 400 Dalton: beyond this molecular weight the substances are not analyzable by gas chromatographic method. In fact, it is well established [1] that chemicals with a molecular weight up to approximately 400 Dalton are the most relevant ones for migration from PS. Substances with a molecular weight higher than 400 Dalton have an extremely low migration potential due to their low diffusivity in polystyrene.

The cleaning efficiencies and the migration levels are thus evaluated.

2) Brief description of the novel technology - Art. 13 (5a)

Polystyrene is a well-suited material for mechanical recycling, however recycling in food contact applications is not yet possible, mainly due to lack of availability of processes able to fulfil the EFSA requirements for recycled plastics in direct food contact. This novel technology overcomes this limit, allowing the use up to 100% rPS in food packaging (direct contact).

The Versalis S.p.A. decontamination Novel Technology, thanks to a proprietary special design of some items and properly managing process parameters, is able to clean efficiently recycled polystyrene (rPS) and so to reduce all contaminants below the target level required for direct food application.

All collection and pre-processing requirements as per Article 6 of Regulation (EU) 2022/1616 are satisfied in the recycling process.

The input material consists of PS objects (mainly containers and trays) from separate collection (e.g. kerbside, post-industrial, etc.), so called post-consumer PS. A high share (95% min) of food contact origin is obtained by accurate sorting. The traceability will be ensured by fulfilling the EN norm 15343 “Plastics - Recycled Plastics - Plastics recycling traceability and assessment of conformity and recycled content”.

The PS waste is fed into a transport belt, where metals and non-PS-containing articles (such as PET, polyolefins, etc.) are sorted out by standard near infrared (NIR) technology. This sorted PS stream is then sent to the shredder, which reduces the size of the articles to flakes. The following steps comprises typically a density separation and an hot washing, followed by rinsing. After the washing step, the flakes are mechanically and thermally dried to bring the water level down to virtually 0%.

The novel technology has been proven by extensive decontamination tests in pilot scale set-up.

The recycling process includes the following steps:

• Step 1: Grinding of post-consumer PS into flakes followed by an intensive washing process and drying.

• Step 2: Melting by extrusion with degasing of such rPS flakes and polymer melt filtration.

• **Step 3: Decontamination of the polymer melt (Novel Technology based on Versalis proprietary design).**

• Step 4: polymer melt feeding system to rPS filtration and pelletizing system.

3) Summary of the reasoning on the capability of the novel technology and the recycling process to manufacture recycled plastic materials and articles that comply with Article 3 of Regulation (EC) No 1935/2004 – Art. 13 (5b)

Versalis and the Fraunhofer-Institute IVV have been working together on the evaluation of the cleaning efficiency of this decontamination process using the Versalis' rPS Decontamination Technology.

The cleaning efficiency was experimentally verified with tests performed into an appropriate pilot scale set-up, using virgin polystyrene intentionally contaminated with high concentrations of model substances (surrogates) according to the principles recommended by European Guidelines and US FDA. The so-called challenge test was performed to study the efficiency of proprietary decontamination process. All relevant process parameters of pilot scale set-up are representative of the industrial plant process.

To evaluate the risk for the consumer, EFSA defined an evaluation procedure, which is based on the following parts:

a) Concentration of potential contaminants in post-consumer polymers

b) Exposure scenario of the consumer

c) Cleaning efficiencies of the Versalis' rPS Decontamination Technology.

The points a) and b) can be taken directly from [1]. The point c) is the core of the Novel Technology and its efficiency should be evaluated with respect to the minimum cleaning efficiencies calculated by Welle in the above-mentioned Article.

The cleaning efficiency of the process for each of the applied surrogates, was calculated according to:

$$Cleaning\ efficiency = \left(1 - \frac{concentration\ after\ recycling}{concentration\ before\ recycling}\right) * 100\%$$

In details:

a) Input contamination levels

Critical contaminants in post-consumer polymers might be chemicals from possible misuse of packaging containers, contaminants from non-food applications such as non-authorized additives as well as degradation products generated during recycling. Other contamination, such as microbiological or viral contamination, can be excluded because of the high temperatures used to process the polymer.

Regarding the input contamination in recycled flakes (rPS) before decontamination processes, scientific literature studies on misuse or contamination levels from substances from the first use of the package are rare. However, hints for misused substances were not found in any investigated samples to date. This is expected since PS containers, in contrast to PET bottles, typically cannot be re-sealed, and PS as polymer is less chemically resistant, rendering it less suitable for storage of chemicals. A low incidence of misuse and a low sorption rate will result in (very) low initial concentrations of potential contaminants in washed PS flakes, which is the input stream of decontamination process. In the absence of such a determination for PS, the use of the misuse rate of PET bottles (3–4 per 10,000) would appear to be a conservative approach so, as a pragmatic approach, the same input concentration as for PET of 3 mg/kg has been assumed for the safety evaluation of recycled PS.

b) Exposure scenario of the consumer

The exposure scenario considered is for toddlers with 10 kg body weight (most conservative approach). The migration scenario for calculations is reported in [1] and are reported in the Table 1 below:

Table 1: Values for food consumption and maximum storage temperatures

Application	Food Consumption per Day	Maximum Storage Time and Temperature	Exposure (Maximum Migration Value)	Maximum Migration with Overestimation Factor 5
Cold-filled yogurt	250 g	40 d at 6 °C	0.1 µg/kg	0.5 µg/kg
Hot-filled yogurt	250 g	2 h 70 °C followed by 40 d at 6 °C	0.1 µg/kg	0.5 µg/kg
Trays for meat, fish or cheese	150 g	30 d at 6 °C	0.167 µg/kg	0.835 µg/kg
Trays for food and vegetables	500 g	30 d at 25 °C	0.05 µg/kg	0.25 µg/kg
Cups for cold drinks	750 mL	1 d at 25 °C	0.033 µg/kg	0.167 µg/kg
Cups for hot drinks	750 mL	2 h at 70 °C	0.033 µg/kg	0.167 µg/kg

c) Cleaning efficiency of the decontamination process (Novel Technology)

The calculated minimum cleaning efficiencies of the recycling process for the applications and food consumption data can be taken from [1] and are reported in the Table 2 below.

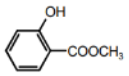
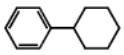
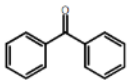
Table 2: Minimum cleaning efficiency

Application	Minimum Cleaning Efficiency				
	Toluene	Chlorobenzene	Phenyl Cyclohexane	Benzophenone	Methyl Stearate
Cold-filled yogurt	64.0%	57.2%	39.9%	30.4%	0%
Hot-filled yogurt	80.0%	75.1%	66.5%	61.3%	24.5%
Trays for meat, fish or cheese	30.6%	17.6%	0%	0%	0%
Trays for food and vegetables	93.7%	92.5%	89.4%	87.8%	76.2%
Cups for cold drinks	76.9%	72.6%	61.5%	55.4%	13.0%
Cups for hot drinks	91.9%	90.4%	86.5%	84.5%	69.7%

The surrogates were chosen in accordance with EU relevant criteria and US FDA recommendations such that they covered the whole spectrum of physical properties and represent the different chemical and physical properties of real-life contaminants.

From theoretical considerations on migration of such substances, the molecular weight represents the major parameter important for the selection of the surrogates. It is well established [1] that chemicals with a molecular weight up to approximately 400 Dalton are the most relevant ones for migration from PS. Substances with a molecular weight higher than 400 Dalton have an extremely low migration potential due to their low diffusivity in PS.

Table 3: Surrogate selection

Surrogate	M_W[a]	Structure	Functional Group	Physical properties
Toluene	92.1		aromatic hydrocarbon	volatile, non-polar
Chlorobenzene	112.6	C_6H_5Cl	halogenated aromatic hydrocarbon	volatile, medium-polar
Methyl salicylate	152.2		aromatic ester	non-volatile, polar
Phenyl cyclo-hexane	160.3		aromatic hydrocarbon	non-volatile, non-polar
Benzophenone	182.2		aromatic ketone	non-volatile, polar
Methyl stearate	298.5	$CH_3(CH_2)_{16}COOCH_3$	aliphatic ester	non-volatile, polar

[a]Molecular weight in g/mol

The contamination procedure and the analyses of the real quantities of surrogates added are reported on Versalis' website, document named "Newer rPS Petition Summary, attachment 1: Fraunhofer Institute Report". The decontaminated polymer samples were then sent back to Fraunhofer Institute for analyses of residual surrogates.

The data, reported into Attachment 1 "Fraunhofer IVV Test Report" and compared to the minimum cleaning efficiencies, show that the Novel Technology, as Versalis rPS Decontamination Technology, is able to clean efficiently rPS and so to reduce all contaminants below the target level required for direct food application, thus demonstrating the suitability of the Decontamination Novel Technology.

From the data provided in this document the following conclusions can be drawn:

- The recycling process and the novel technology thereof are capable to reduce the migration of potential contaminants from post-consumer PS to concentration levels which are in compliance with Article 3 of Regulation (EC) 1935/2004.
- The novel technology fulfils the requirements for the specific migration of the applied surrogates according to EU Regulation 10/2011.

- The investigated manufacturing process is in a position to fulfil the requirements of the GMP Regulation (EC) 2023/2006.

4) List of all substances with a molecular weight below 1000 Dalton found in the plastic inputs to each of the decontamination installations and in the recycled plastic output thereof – Art. 13 (5c)

In Table 4 below the summary of the concentrations of all the substances found in the individual batches is reported.

In particular, the table is ordered by occurrence of the substances (how many times it was found in the individual batches) and the minimum and maximum value found is reported for both the input and output sample.

For each substance the origin is indicated and whether this is a substance typical of polystyrene or a NIAS.

In some cases, no concentration value is reported: this means that the concentration of the substance is lower than the limit of detection (LoQ) or is not present in the sample (n.d., not detectable). For the details of the analyses of each individual batch produced, please refer to Annex 1.

Table 4: List of substances found in the produced batches

Occourrency	MW [g/mol]	Substance type	Substance	CAS Number	Origin	Typical/NIAS	Output Minimum Concentration [ppm]	Output Maximum Concentration [ppm]	Input Minimum Concentration [ppm]	Input Maximum Concentration [ppm]
29	208	Non Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	Typical	1.25	1.25	1.03	1.38
29	106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock Contaminant	Typical	0.20	1.09	0.40	3.82
29	196	Non Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	Typical	2.19	9.29	2.40	19.00
29	120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerization Product	Typical	0.20	1.82	0.80	3.62
29	106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	Typical	0.20	0.22	0.23	1.39
29	220	Non Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	NIAS	1.00	1.21	1.00	1.26
29	84	Volatiles	Cyclohexane	110-82-7	Polymerization product	Typical	0.34	0.34	0.28	5.43
29	136	Volatiles	D-Limonene	5989-27-5	Post-consumer	NIAS			0.20	122.30
29	106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	Typical	1.00	17.00	2.00	38.00
29	240	Non Volatiles	Heptadecane	629-78-7	Additive: mineral oil	Typical	3.62	4.00	1.13	5.41
29	212	Non Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	Typical	1.00	1.50	1.00	64.20
29	120	Volatiles	Propylbenzene	103-65-1	Polymerization product	Typical	0.20	5.02	1.04	4.07
29	104	Volatiles	Styrene	100-42-5	Monomer	Typical	19.00	161.00	43.00	231.00
29	210	Non Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*	Polymerization product	Typical	3.34	78.40	3.58	232.40
29	271	Non Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*	Polymerization product	Typical	1.12	25.20	1.42	71.40
29	208	Non Volatiles	Styrene Dimers	*Mixture*	Polymerisation product	Typical	57.30	208.00	78.40	532.00
29	312	Non Volatiles	Styrene Trimers	*Mixture*	Polymerisation product	Typical	608.30	1897.00	102.00	2861.00
29	157	Non Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*	Polymerization product	Typical	72.20	72.20	3.08	7.21
29	92	Volatiles	Toluene	108-88-3	Polymerization product	Typical	0.22	1.37	0.98	12.40
27	120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerization product	NIAS	0.35	0.62	0.20	1.77
27	170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	NIAS			0.20	5.15
27	222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	Typical	0.20	0.31	0.24	5.69
25	120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	NIAS			0.20	3.31
23	120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	Typical	0.20	0.22	0.53	1.27
22	74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	NIAS			0.95	2.68
21	130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	NIAS			4.39	12.50
21	402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	NIAS	1.13	9.92	1.62	314.00
21	142	Volatiles	Decane	124-18-5	Additive: Mineral oil	Typical			0.56	1.69
21	371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	NIAS	1.12	6.86	1.40	160.00
21	391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	NIAS	2.10	10.90	1.80	214.00
21	100	Volatiles	Hexanal	66-25-1	Fragrances	NIAS	0.24	0.45	0.39	6.40
21	74	Volatiles	Methyl methoxyacetate	6290-49-9		NIAS			0.31	0.82
21	156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	Typical			0.59	1.45
20	70	Volatiles	2-Pentene, (Z)-	627-20-3		NIAS			0.20	1.01
20	371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	NIAS			0.21	3.23
19	86	Volatiles	Pentanal	110-62-3	Fragrances	NIAS			0.44	1.58
18	61	Volatiles	o-Ethylhydroxylamine	624-86-2		NIAS			0.41	3.58
16	56	Volatiles	Acrolein	107-02-8		NIAS			2.27	15.60
16	60	Volatiles	Methyl formate	107-31-3		NIAS			6.90	25.60
15	142	Volatiles	Nonanal	124-19-6	Fragrances	NIAS			0.34	0.81
14	72	Volatiles	Butanal	123-72-8	Flavour	NIAS			0.32	0.62
11	128	Volatiles	Octanal	124-13-0	Fragrances	NIAS			0.21	0.60
8	210	Non Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	Typical	11.40	66.80	5.42	38.40
8	174	Non Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent	NIAS				
8	391	Non Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer	NIAS				
6	60	Volatiles	Acetic acid	64-19-7	Degradation/Plasticizer	Typical			0.40	2.48

5) List of contaminating materials regularly present in the plastic input – Art. 13 (5d)

The washed and dried PS flakes have a >95% purity regarding food PS. Typical PS flake specifications after conventional recycling (washing and sorting) are given in the Table 5 below (PS non-food < 5%).

The waste may originally contain non-food articles, these materials are sorted out of the waste stream, such that the input material consist predominantly of PS used in contact with food. The specification for the input to the decontamination process are as follows:

Table 5: List of contaminating materials

Parameter	Value
Moisture	<1%
Polyolefins content	<1%
Polyamide content	<0.5%
Metals content	<0.1%
Wood, paper, cellulose	<0.5%

The waste material is tracked according to EN 15343 standard and analysed according UNI 10667/10 standard in order to determine the amount of PS in the input material. In Annex 2 a typical production certificate of decontaminated PS (rPS) is reported as an example.

In the Table 6 below the percentage of PS content, as mean value, found in all the input batches used for the production of rPS is reported.

Table 6: Percentage of PS content in the input batches

	Minimun value [%]	**Maximum value [%]**	**Avergage value [%]**	**Standard Deviation [%]**
PS content	96.0	98.6	97.27	0.71

6) Analysis of the most likely origin of the identified contaminants referred to in points (c) and (d). – Art. 13 (5e)

As reported below (Chapter 10) testing as demonstrated that many of the substances found in rPS are also found in the samples of virgin PS. These substances are generally found at similar concentrations in both virgin and recycle samples. Several other substances (e.g., aldehydes or D-Limonene) are flavoring substances that may be associated with foods that were stored in plastic packaging that was in source material.

Other substances could be present in the input material, coming from their use in normal components of the packaging (e.g., labels, printing inks, adhesive, etc.) that were recycled. The levels of these substances are relatively low and are comparable to the levels in other packaging materials.

7) Measurement or estimation of the migration levels to food of contaminants present in the recycled plastic materials and articles – Art. 13 (5f)

a) Approach followed for the determination of the target values

To evaluate the risk for the consumer, European Food Safety Authority (EFSA) defined an evaluation procedure, which is based on the Exposure scenario of the consumer.

The exposure of the consumer is calculated from the daily food consumption of the relevant consumer groups (e.g., infants, toddlers, or adults) and the migration of potential contaminants from the recyclate-containing packaging material into food. The migrated amount is typically not experimentally determined but predicted by use of diffusion modelling. For example, EFSA uses the so-called A_P prediction model for the evaluation of the migrated amount of the surrogates into food. This A_P model over-estimates the real migration into food [2].

Therefore, it is essential to reduce the contaminants' concentration to values below the limits, where the limits are the values that would cause excessive migration of the contaminant from the package, prepared using the treated recycled polymer, into the food products.

Such limits are described in detail in article by F. Welle [1], where it is given a summary of the evaluation of safety as provided by the European Food Safety Authority (EFSA). The latter was based on the Threshold of Toxicological Concern (TTC) Concept [3]. The TTC approach was used by EFSA for safety evaluation of other plastics such as recycled PET. In particular, for PET reference is made to EFSA CEF Panel [4].

Up to now, EFSA did not produce similar documentation for vinyl aromatic based polymers, such as polystyrene (PS) and rubber reinforced vinyl aromatic polymers (such as HIPS).

In absence of specific information on vinyl aromatic based polymers, it was assumed the same TTC concept of recycled PET.

To facilitate the application of the TTC approach, Kroes et al. [5] proposed a decision tree which has since been modified. The TTC decision tree presented in [6] is based on the EFSA and WHO [3].

In case of potential DNA-reactive mutagens and/or carcinogens contaminants, the assumed scenario is that, according to the TTC concept [6], an exposure of 0.0025 μg of a substance per kg body weight per day is not critical to human health.

On the other hand, for all substances for which the TTC value is known [2], [5], [6], this has been assumed as the value to be considered for the determination of the MSEC.

It is specified that the MSEC value reported in Table 10 has been determined by multiplying the TTC value by the weight of the toddler, which is 10 kg.

b) Evaluation of the migrated amount of the surrogates into food

There are different possible scenarios and applications for post-consumer in direct food contact. For the evaluation of the migrated amount of surrogates into food it has been assumed the same exposure scenarios used by F. Welle (see Table 2 at page 7 of [1]) as reported in Table 1.

The computation was carried out following the European Technical Report “Practical Guidelines on the Application of Migration Modelling for the Estimation of Specific Migration” [2] with particular reference to the analytical solution to the diffusion equation at section 9.1 and the ranges of parameters for the applicability of the migration model for PS, HIPS and SBS as reported at section “3.2.2 Polystyrenes”, Table 2, and in particular it has been chosen as Ap’*=1.0 and tau=0 (i.e., the data for HIPS) and the diffusion coefficients it has been estimated by equations 1 and 2 as reported at section 3.1.

In addition, the following parameters have been defined according to what it is reported in [1]: the maximum safe concentration (MSC) is the concentration of contaminant in the plastic package that would lead to an intake of the contaminant, by a toddler of 10 kg of

body weight, corresponding to the maximum safe exposure of the contaminant (MSEC). MSC represents the maximum safe concentration of contaminant that must be present in the packaging in order not to exceed the maximum permissible migration threshold into food.

$$\mathrm{MSC} = \frac{\mathrm{OEF}\cdot\mathrm{MSEC}}{\mathrm{FC}} \cdot \frac{\mathrm{K_{pf}}\cdot\rho_F}{\rho_P \cdot \left[\frac{1}{1+\alpha} - 2\cdot\alpha\cdot\sum_1^n \frac{\exp\left(-q_n^2\cdot\frac{D_P(T,MW)}{{d_P}^2}\cdot t\right)}{1+\alpha+\alpha^2\cdot q_n^2}\right]} \quad (1)$$

Following the indications disclosed in the articles of EFSA and of F. Welle [1], the MSC was computed by analytically solving the previously cited diffusion equation (EU Report 27529, section 9.1, equations 3 and 7) [2]. More precisely, such equations derive from equation 4.37 of Crank [7] (at page 57).

Where, OEF is the overestimation factor, FC the food consumption per day, $\mathrm{K_{pf}}$ the partition coefficient, ρ_F the food density, ρ_P the polymer density, $\alpha = V_F/(\mathrm{K_{pf}}\cdot A\cdot d_P)$ where A is the food-plastic interface area, V_F the food volume, d_P is the plastic thickness, $D_P(T, MW)$ is the diffusion coefficient, computed with constants ${A_p}'^*$=1.0 and $\tau = 0$, and MW the molecular weight of the contaminant, in Dalton:

$$D_P(T, MW) = {D_P}^* = exp\left({A_p}'^* - \frac{\tau}{T} - 0.1351\cdot MW^{2/3} + 0.003\cdot MW - \frac{10454}{T}\right) = exp\left(1.0 - 0.1351\cdot MW^{2/3} + 0.003\cdot MW - \frac{10454}{T}\right) \quad (2)$$

with T in Kelvin.

The number of terms n in the series was chosen to be at least 100 (minimum 100 terms, but even more in case the subsequent term would change MCE by more than 0.01%).

Finally, Q_n are the non-zero positive roots of the following equation [7] eq. 4.38, reported also as equation 5 in EFSA report, section 9.1:

$$tan(\mathrm{q_n}) = -\alpha \cdot \mathrm{q_n} = -55.6 \cdot \mathrm{q_n} \quad (3)$$

The roots can be computed solving:

$$f(\mathrm{q_n}) = tan(\mathrm{q_n}) + \alpha \cdot \mathrm{q_n} = 0 \quad (4)$$

with high degree of precision by numerical methods. The Newton-Raphson algorithm was used, with maximum error tolerance on both abscissas $\mathrm{q_n}$ and ordinates $f(\mathrm{q_n})$ equal to 0.0001.

For the evaluation of MSC of each contaminant, according to [1], it was assumed that the following parameters are constant for any applications and for any contaminants:

- the human being is the toddler of 10 kg of weight
- OEF is the overestimation factor is = 5
- $\mathrm{K_{pf}}$ the partition coefficient is = 1.0
- ρ_F the food density is = 1000 kg/m^3
- ρ_P the polymer density is = 1040 kg/m^3
- $\alpha = \mathrm{V}_F/(\mathrm{K_{pf}} \cdot \mathrm{A} \cdot \mathrm{d}_P) = 55.6$ where A is the food-plastic interface area (0.06 m^2), V_F the food volume (0.001 m^3), d_P is the plastic thickness (0.0003 m)

Table 7: Values for food consumption and maximum storage temperatures (as in Table 1)

Application	Food Consumption (FC) per Day	Maximum Storage Time and Temperature
Cold-filled yogurt	250 g	40 d at 6 °C
Hot-filled yogurt	250 g	2 h 70 °C followed by 40 d at 6°C
Trays for meat, fish or cheese	150 g	30 d at 6 °C
Trays for food and vegetables	500 g	30 d at 25 °C
Cups for cold drinks	750 ml	1 d at 25 °C
Cups for hot drinks	750 mL	2 h at 70 °C

It is clarified that the estimation of the diffusion coefficient was performed outside the parameter ranges defined for the applicability of the migration model. This approach is justified by the fact that the diffusion coefficient estimated using equations 1 and 2 satisfies the condition Dp ≤ Dp* stipulated by the Guideline, ensuring that the migration is conservatively overestimated.

c) Application example of equation (1)

Instead of the analytical solution, to compute MSC, F. Welle [1] used a finite element solvent software AKTS SML.

In this paragraph, is reported a comparison between the results obtained by solving equation (1), applying the analytical resolution developed by Versalis' R&D, and those obtained by F. Welle [1] by solving the same equation with finite element solvent software.

The comparison was done considering the same contaminants used by F. Welle, that are potential DNA-reactive mutagens and/or carcinogens contaminants, and for which the TTC value is 0.0025 µg of a substance per kg body weight per day.

Replacing into the MSC equation (1) the following parameters reported at points from 1 to 9, for the application "Trays for food and vegetables", which is the most demanding in terms of max migration, the following final equation is obtained:

$$\mathrm{MSC} = \frac{(5)\cdot\left(2.5\cdot 10^{-11}\,\frac{\mathrm{kg_C}}{\mathrm{day}}\right)}{\left(0.5\,\frac{\mathrm{kg_F}}{\mathrm{day}}\right)} \cdot \frac{1.0\cdot 1000\,\frac{kg}{m^3}}{1040\,\frac{kg}{m^3}\cdot\left[\frac{1}{1+55.6}-2\cdot 55.6\cdot\sum_1^n \frac{\exp\left(-\mathrm{q_n^2}\cdot\frac{\mathrm{D_P}(T,MW)}{(3\cdot 10^{-3})^2 m^2}\cdot 30\ day\cdot 86400\ s/day\right)}{1+55.6+55.6^2\cdot \mathrm{q_n^2}}\right]}$$

Where:

1. $\alpha = \mathrm{V}_F/(\mathrm{K_{pf}}\cdot \mathrm{A}\cdot \mathrm{d}_P) = 55.6$ where A is the food-plastic interface area (0.06 m^2), V_F the food volume (0.001 m^3), d_P is the plastic thickness (0.0003 m)
2. $\mathrm{D_P}(T, MW)$ is the diffusion coefficient, computed with constants $\mathrm{A_p}'$=1.0 and $\tau = 0$, and MW the molecular weight of the contaminant, in Dalton
3. T is the temperature storage of food in Kelvin = 298.15 K
4. t is the storage time of food in seconds = $30\ day\cdot 86400\,\frac{s}{day} = 2592000\ s$
5. MSEC is the maximum safe exposure to contaminants per day = $2.5\cdot 10^{-11}\ \mathrm{kg_C/day}$
6. FC is the food consumption per day = $0.5\ \mathrm{kg_F/day}$
7. $\mathrm{K_{pf}}$ is the partition coefficient = 1.0
8. ρ_F is the food density = 1000 kg/m^3
9. ρ_P is the polymer density = 1400 kg/m^3

The MSC values obtained with equation (1) are the following:

- ✓ Toluene: 0.190 $mg/kg_{PLASTIC}$
- ✓ Chlorobenzene 0.225 $mg/kg_{PLASTIC}$
- ✓ Methyl salicylate 0.300 $mg/kg_{PLASTIC}$
- ✓ Phenyl cyclohexane 0.317 $mg/kg_{PLASTIC}$
- ✓ Methyl stearate 0.367 $mg/kg_{PLASTIC}$
- ✓ Benzophenone 0.715 $mg/kg_{PLASTIC}$

Comparing the results obtained with those in [1], can observe a slight difference, only for Benzophenone, equal to an error of 0.4%.

d) State of art of the migration of styrene monomer and oligomers from polystyrene food contact materials to foods

Styrene dimers and trimers, which are also residual materials produced during polymerization, have come under scrutiny due to conflicting reports suggesting they may or may not exhibit estrogenic activity [8], [9].

Currently, the rate at which styrene dimers and trimers transfer from food packaging into foods is unclear. For this reason, some extra effort has been put in place in order to determine as correct as possible the coefficients relevant to styrene dimers and trimers in the polymer matrix.

The calculation of the diffusion and partition coefficients made with the model described gives quite high and unexpected values.

Thus, due to their estimated low water solubilities (0.86–120 mg l^{-1} at 25°C for the dimers and 0.0013–0.00092 mg l^{-1} at 25°C for the trimers) compared with the styrene monomer (310 mg l^{-1} at 25°C) and increased molecular size (MW = 196–312 Dalton for the dimers/ trimers versus 104 Dalton for the monomer), their diffusion coefficients are expected to be lower than that of the styrene monomer at approximately 3.0×10^{-13} cm^2 s^{-1} [10]. It was so decided to evaluate the Diffusion coefficient starting from experimental data available in scientific and toxicological literature.

e) Evaluation of the migration of styrene dimers and trimers

The results reported in the FDA report [11] indicate that the migration of styrene dimers and trimers in food is significantly limited by the low value of the diffusion coefficient and the high value of the partition coefficient. Further literature from F. Welle reiterates the same concepts [12]. Starting from the article by Genualdi et al. [11], to ensure an even

greater level of detail, more accurate information relating to the migrations of styrene dimers and trimers could be introduced into the model. In particular, the partition coefficient and the diffusion coefficient of equation (1) could be modified according to the values obtained from experimental trials, so that the previously determined MSC values for the dimers and trimers of styrene, can be reconsidered and made more consistent with real data.

The diffusion coefficients were determined by Genualdi et al. [11] by analyzing different polystyrene (PS) applications, used in the manufacture of food contact materials (FCMs), and subjecting them to a migration test in three different food simulants: 10% ethanol, 50% ethanol, and 95% ethanol. Among the food contact materials (FCMs) analyzed, four were HIPS materials, along with one XPS, one EPS, and one GPPS. To achieve this objective, new calculations were performed using equation (1), both for the dimers and trimers of styrene, with the aim of determining the MSC values through more representative diffusion and partition coefficients.

Referring to the values of diffusion and partition coefficients reported by Genualdi et al. in Table 3 and 4 of [11] and using:

1. the human being is the toddler of 10 kg of weight
2. an overestimation factor (OEF) equal to 1
3. ρ_F the food density equal to 1000 kg/m^3
4. ρ_P the polymer density equal to 1040 kg/m^3
5. the food-plastic interface area (A) equal to 0.06 m^2
6. the food volume (V_F) equal to 0.001 m^3
7. the plastic thickness (d_P) equal to 0.0003 m
8. the same exposure scenarios indicated in [1]
9. the MSEC values related to the dimers and trimers of styrene [2], [5], [6].

The new MSC values have been determined. The calculations take into account only the results related to HIPS materials, which were obtained using 95% ethanol as the food simulant at 40°C, as this condition represents the worst-case scenario.

f) Migration level evaluation

In Table 8 below the migration level are evaluated for all the produced decontaminated batches for the application described in Table 2, by applying the diffusion model reported in Paragraph 7.

Table 8: Migration level for the produced batches

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
REFENCE PS AIR	04/12/2024 - L4202400354	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	7.33	0.08	0.30	0.30	0.30	0.28
		208	Non-Volatiles	Styrene Dimers	*Mixture*		189.3	6.56	7.65	7.65	7.65	6.66
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	3.76	0.63	0.33	0.95	1.80	0.55
		210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	20.2	4.05	2.11	6.07	11.56	3.51
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		5.67	1.14	0.59	1.70	3.25	0.99
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		3.36	0.47	0.25	0.71	1.35	0.41
		174	Non-Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent	<1					
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1013.7	4.57	0.96	0.96	0.96	3.33
		391	Non-Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer	<1					
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		<LoQ					
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		72	Volatiles	Butanal	123-72-8	Flavour	n.d.					
		60	Volatiles	Acetic acid	64-19-7	Degradation	<LoQ					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	<LoQ					
		86	Volatiles	Pentanal	110-62-3	Fragrances	<LoQ					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.63	0.29	0.15	0.43	0.83	0.25
		100	Volatiles	Hexanal	66-25-1	Fragrances	0.39	0.17	0.09	0.25	0.48	0.15
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	17	6.99	3.66	10.51	19.95	6.05
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	<LoQ					
		104	Volatiles	Styrene	100-42-5	Monomer	19	7.94	4.14	11.88	22.66	6.87
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.24	0.09	0.05	0.13	0.25	0.08
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.51	0.19	0.10	0.28	0.54	0.16
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	<LoQ					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	<LoQ					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
REFENCE PS AIR	06/12/2024 - L4202400355	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	9.29	0.10	0.38	0.38	0.38	0.35
		208	Non-Volatiles	Styrene Dimers	*Mixture*		175.8	6.09	7.11	7.11	7.11	6.18
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	3.62	0.61	0.32	0.91	1.74	0.53
		210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	31.6	6.34	3.31	9.49	18.09	5.49
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		8.33	1.67	0.87	2.50	4.77	1.45
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		4.4	0.62	0.32	0.93	1.77	0.54
		174	Non-Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent	<1					
		312	Non-Volatiles	Styrene Trimers	*Mixture*		790	3.56	0.75	0.75	0.75	2.59
		391	Non-Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer	<1					
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		<LoQ					
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		72	Volatiles	Butanal	123-72-8	Flavour	n.d.					
		60	Volatiles	Acetic acid	64-19-7	Degradation	<LoQ					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		86	Volatiles	Pentanal	110-62-3	Fragrances	<LoQ					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.91	0.42	0.22	0.63	1.20	0.36
		100	Volatiles	Hexanal	66-25-1	Fragrances	0.45	0.19	0.10	0.29	0.55	0.17
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	14	5.75	3.02	8.65	16.43	4.98
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	0.98	0.40	0.21	0.60	1.15	0.35
		104	Volatiles	Styrene	100-42-5	Monomer	85	35.51	18.52	53.14	101.35	30.75
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.23	0.08	0.04	0.13	0.24	0.07
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.47	0.17	0.09	0.26	0.49	0.15
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	<LoQ					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	<LoQ					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
REFENCE PS AIR	06/12/2024 - L4202400356	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil						
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer						
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*							
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	1	0.19	0.10	0.28	0.54	0.16
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	6.13	0.07	0.25	0.25	0.25	0.23
		208	Non-Volatiles	Styrene Dimers	*Mixture*		157.6	5.46	6.37	6.37	6.37	5.54
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	4	0.67	0.35	1.01	1.92	0.58
		210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	11.4	2.29	1.19	3.42	6.53	1.98
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		3.34	0.67	0.35	1.00	1.91	0.58
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		1.72	0.24	0.13	0.36	0.69	0.21
		174	Non-Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent						
		312	Non-Volatiles	Styrene Trimers	*Mixture*		858	3.86	0.81	0.81	0.81	2.82
		391	Non-Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer						
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products						
		74	Volatiles	Methyl methoxyacetate	6290-49-9							
		61	Volatiles	o-Ethylhydroxylamine	624-82-2							
		70	Volatiles	2-Pentene, (Z)-	627-20-3							
		72	Volatiles	Butanal	123-72-8	Flavour						
		60	Volatiles	Acetic acid	64-19-7	Degradation						
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil						
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product						
		86	Volatiles	Pentanal	110-62-3	Fragrances						
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.61	0.28	0.15	0.42	0.80	0.24
		100	Volatiles	Hexanal	66-25-1	Fragrances	0.24	0.10	0.05	0.15	0.30	0.09
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil						
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	5	2.06	1.08	3.09	5.87	1.78
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant						
		104	Volatiles	Styrene	100-42-5	Monomer	68	28.40	14.81	42.51	81.08	24.60
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product						
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation						
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.28	0.10	0.05	0.15	0.29	0.09
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product						
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil						
		142	Volatiles	Decane	124-18-5	Mineral oil						
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer						
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer						
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation						
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil						
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil						

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
REFENCE AIR PS	09/12/2024 - L4202400357	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	1.25	0.25	0.13	0.38	0.72	0.22
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	1.21	0.23	0.12	0.34	0.65	0.20
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	6.37	0.07	0.26	0.26	0.26	0.24
		208	Non-Volatiles	Styrene Dimers	*Mixture*		149.4	5.18	6.04	6.04	6.04	5.26
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	66.8	13.40	6.99	20.06	38.24	11.61
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		16.87	3.38	1.76	5.07	9.66	2.93
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		7.76	1.10	0.57	1.64	3.13	0.95
		174	Non-Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent	<1					
		312	Non-Volatiles	Styrene Trimers	*Mixture*		731.4	3.29	0.69	0.69	0.69	2.40
		391	Non-Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer	<1					
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.					
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		72	Volatiles	Butanal	123-72-8	Flavour	n.d.					
		60	Volatiles	Acetic acid	64-19-7	Degradation	n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.63	0.29	0.15	0.43	0.83	0.25
		100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	12	4.93	2.59	7.42	14.08	4.27
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	<LoQ					
		104	Volatiles	Styrene	100-42-5	Monomer	153	63.91	33.33	95.65	182.43	55.35
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.21	0.08	0.04	0.12	0.22	0.07
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.32	0.12	0.06	0.18	0.34	0.10
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	<LoQ					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	<LoQ					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
REFENCE PS AIR	11/12/2024 - L4202400370	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	6.32	0.07	0.26	0.26	0.26	0.24
		208	Non-Volatiles	Styrene Dimers	*Mixture*		140.4	4.86	5.68	5.68	5.68	4.94
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	30.8	6.18	3.22	9.25	17.63	5.35
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		7.7	1.54	0.81	2.31	4.41	1.34
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		3.76	0.53	0.28	0.79	1.52	0.46
		174	Non-Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent	<1					
		312	Non-Volatiles	Styrene Trimers	*Mixture*		804.6	3.62	0.76	0.76	0.76	2.64
		391	Non-Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer	<1					
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.					
		61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.					
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		72	Volatiles	Butanal	123-72-8	Flavour	n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.64	0.30	0.15	0.44	0.84	0.26
		100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	10	4.11	2.15	6.18	11.74	3.56
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	<LoQ					
		104	Volatiles	Styrene	100-42-5	Monomer	69	28.82	15.03	43.14	82.27	24.96
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	<LoQ					
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.24	0.09	0.05	0.13	0.25	0.08
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	<LoQ					
		128	Volatiles	Octanal	124-13-0	Fragrances	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	<LoQ					
		142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		60	Volatiles	Methyl formate	107-31-3		n.d.					
		56	Volatiles	Acrolein	107-02-8		n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
REFENCE PS AIR	11/12/2024 - L4202400371	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	6.72	0.07	0.27	0.27	0.27	0.25
		208	Non-Volatiles	Styrene Dimers	*Mixture*		155.02	5.37	6.27	6.27	6.27	5.45
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	15.01	3.01	1.57	4.51	8.59	2.61
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		4.43	0.89	0.46	1.33	2.54	0.77
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		2.1	0.30	0.15	0.44	0.85	0.26
		174	Non-Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent	<1					
		312	Non-Volatiles	Styrene Trimers	*Mixture*		737.7	3.32	0.70	0.70	0.70	2.42
		391	Non-Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer	<1					
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.					
		61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.					
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		72	Volatiles	Butanal	123-72-8	Flavour	n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	<LoQ					
		86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.65	0.30	0.16	0.45	0.86	0.26
		100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	5	2.06	1.08	3.09	5.87	1.78
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	<LoQ					
		104	Volatiles	Styrene	100-42-5	Monomer	59	24.64	12.85	36.89	70.35	21.34
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.2	0.07	0.04	0.11	0.21	0.06
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.25	0.09	0.05	0.14	0.26	0.08
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	<LoQ					
		128	Volatiles	Octanal	124-13-0	Fragrances	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	<LoQ					
		142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
REFENCE PS AIR	12/12/2024 - L4202400372	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	5.49	0.06	0.22	0.22	0.22	0.21
		208	Non-Volatiles	Styrene Dimers	*Mixture*		110.6	3.83	4.47	4.47	4.47	3.89
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	19.3	3.87	2.02	5.80	11.05	3.35
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		7.04	1.41	0.74	2.11	4.03	1.22
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		11.6	1.64	0.85	2.45	4.68	1.42
		174	Non-Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent	<1					
		312	Non-Volatiles	Styrene Trimers	*Mixture*		705.2	3.18	0.67	0.67	0.67	2.32
		391	Non-Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer	<1					
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	<LoQ					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		<LoQ					
		61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.					
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		72	Volatiles	Butanal	123-72-8	Flavour	n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	<LoQ					
		86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	1.11	0.51	0.27	0.77	1.46	0.44
		100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	8	3.29	1.72	4.94	9.39	2.84
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	<LoQ					
		104	Volatiles	Styrene	100-42-5	Monomer	86	35.92	18.73	53.77	102.54	31.11
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.32	0.12	0.06	0.18	0.34	0.10
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.49	0.18	0.09	0.27	0.52	0.16
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	<LoQ					
		128	Volatiles	Octanal	124-13-0	Fragrances	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					
		142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		60	Volatiles	Methyl formate	107-31-3		n.d.					
		56	Volatiles	Acrolein	107-02-8		n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
REFENCE PS AIR	13/12/2024 - L4202400373	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	6.25	0.07	0.25	0.25	0.25	0.24
		208	Non-Volatiles	Styrene Dimers	*Mixture*		87.3	3.02	3.53	3.53	3.53	3.07
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	19.4	3.89	2.03	5.83	11.11	3.37
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		7.15	1.43	0.75	2.15	4.09	1.24
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		11.3	1.60	0.83	2.39	4.56	1.38
		174	Non-Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent	<1					
		312	Non-Volatiles	Styrene Trimers	*Mixture*		608.3	2.74	0.58	0.58	0.58	2.00
		391	Non-Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer	<1					
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		<LoQ					
		61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.					
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		72	Volatiles	Butanal	123-72-8	Flavour	n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.83	0.38	0.20	0.57	1.09	0.33
		100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	5	2.06	1.08	3.09	5.87	1.78
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	<LoQ					
		104	Volatiles	Styrene	100-42-5	Monomer	72	30.08	15.68	45.01	85.85	26.05
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	<LoQ					
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.26	0.10	0.05	0.14	0.27	0.08
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	<LoQ					
		128	Volatiles	Octanal	124-13-0	Fragrances	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	<LoQ					
		142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		60	Volatiles	Methyl formate	107-31-3		n.d.					
		56	Volatiles	Acrolein	107-02-8		n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	05/02/2025 - L4202500028	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		72.2	20.38	10.62	30.46	58.23	17.64
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	<1					
		208	Non-Volatiles	Styrene Dimers	*Mixture*		66.2	2.29	2.68	2.68	2.68	2.33
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		23.2	4.65	2.43	6.97	13.28	4.03
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		3.16	0.45	0.23	0.67	1.27	0.39
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	6.86	0.58	0.30	0.87	1.66	0.50
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1430	6.44	1.35	1.35	1.35	4.70
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	10.9	0.84	0.44	1.26	2.41	0.73
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	2.45	0.18	0.09	0.27	0.51	0.16
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	1.37	0.63	0.33	0.95	1.80	0.55
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	2	0.82	0.43	1.24	2.35	0.71
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.					
		104	Volatiles	Styrene	100-42-5	Monomer	60	25.06	13.07	37.51	71.54	21.71
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.48	0.18	0.09	0.26	0.50	0.15
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	<LoQ					
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	06/02/2025 - L4202500029	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	1.5	0.30	0.16	0.44	0.85	0.26
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	<1					
		208	Non-Volatiles	Styrene Dimers	*Mixture*		78.8	2.73	3.19	3.19	3.19	2.77
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		22.6	4.53	2.36	6.79	12.94	3.93
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		<1					
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	3.84	0.33	0.17	0.49	0.93	0.28
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1596	7.19	1.51	1.51	1.51	5.24
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	5	0.39	0.20	0.58	1.10	0.33
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	1.68	0.12	0.06	0.19	0.35	0.11
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.71	0.33	0.17	0.49	0.93	0.28
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	1	0.41	0.22	0.62	1.17	0.36
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.					
		104	Volatiles	Styrene	100-42-5	Monomer	45	18.80	9.80	28.13	53.66	16.28
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.					
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	<LoQ					
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.					
		128	Volatiles	Octanal	124-13-0	Fragrances	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	07/02/2025 - L4202500030	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	<1					
		208	Non-Volatiles	Styrene Dimers	*Mixture*		73.1	2.53	2.96	2.96	2.96	2.57
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		30.7	6.16	3.21	9.22	17.58	5.33
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		<1					
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	2.89	0.25	0.13	0.37	0.70	0.21
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1604	7.22	1.52	1.52	1.52	5.27
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	2.5	0.19	0.10	0.29	0.55	0.17
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	5.6	0.41	0.21	0.62	1.17	0.36
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.49	0.23	0.12	0.34	0.65	0.20
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	3	1.23	0.65	1.85	3.52	1.07
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.					
		104	Volatiles	Styrene	100-42-5	Monomer	56	23.39	12.20	35.01	66.77	20.26
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.					
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	<LoQ					
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	10/02/2025 - L4202500031	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	1.4	0.28	0.14	0.42	0.79	0.24
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	<1					
		208	Non-Volatiles	Styrene Dimers	*Mixture*		77.7	2.69	3.14	3.14	3.14	2.73
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		17.4	3.49	1.82	5.23	9.96	3.02
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		<1					
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	2.94	0.25	0.13	0.37	0.71	0.22
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1897	8.54	1.80	1.80	1.80	6.23
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	4.4	0.34	0.18	0.51	0.97	0.29
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	9.92	0.73	0.38	1.09	2.08	0.63
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.43	0.20	0.10	0.30	0.57	0.17
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	13	5.34	2.80	8.04	15.26	4.62
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.					
		104	Volatiles	Styrene	100-42-5	Monomer	161	67.25	35.07	100.66	191.97	58.24
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.					
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	10/02/2025 - L4202500032	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	1	0.20	0.10	0.30	0.57	0.17
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	<1					
		208	Non-Volatiles	Styrene Dimers	*Mixture*		78.4	2.72	3.17	3.17	3.17	2.76
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		20.7	4.15	2.17	6.22	11.85	3.60
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		<1					
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	4.12	0.35	0.18	0.52	1.00	0.30
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1750	7.88	1.66	1.66	1.66	5.75
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	4.32	0.33	0.17	0.50	0.95	0.29
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	1.53	0.11	0.06	0.17	0.32	0.10
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.56	0.26	0.13	0.39	0.74	0.22
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	2	0.82	0.43	1.24	2.35	0.71
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.					
		104	Volatiles	Styrene	100-42-5	Monomer	45	18.80	9.80	28.13	53.66	16.28
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.					
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	n.d.					
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	11/02/2025 - L4202500033	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	<1					
		208	Non-Volatiles	Styrene Dimers	*Mixture*		77.7	2.69	3.14	3.14	3.14	2.73
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		31.5	6.32	3.29	9.46	18.03	5.47
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		<1					
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	3.84	0.33	0.17	0.49	0.93	0.28
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1684	7.59	1.60	1.60	1.60	5.53
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	4.01	0.31	0.16	0.46	0.88	0.27
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	7.16	0.53	0.27	0.79	1.50	0.46
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.45	0.21	0.11	0.31	0.59	0.18
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	1	0.41	0.22	0.62	1.17	0.36
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.					
		104	Volatiles	Styrene	100-42-5	Monomer	42	17.54	9.15	26.26	50.08	15.19
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.					
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	n.d.					
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	11/02/2025 - L4202500034	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	2.9	0.03	0.12	0.12	0.12	0.11
		208	Non-Volatiles	Styrene Dimers	*Mixture*		65	2.25	2.63	2.63	2.63	2.29
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		10.7	2.15	1.12	3.21	6.13	1.86
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		3.87	0.55	0.28	0.82	1.56	0.47
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	1.74	0.15	0.08	0.22	0.42	0.13
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1130	5.09	1.07	1.07	1.07	3.71
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	3.54	0.27	0.14	0.41	0.78	0.24
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	<1					
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.69	0.32	0.17	0.48	0.91	0.28
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	4	1.64	0.86	2.47	4.69	1.42
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.					
		104	Volatiles	Styrene	100-42-5	Monomer	56	23.39	12.20	35.01	66.77	20.26
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	<LoQ					
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	<LoQ					
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	13/02/2025 - L4202500035	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	2.7	0.03	0.11	0.11	0.11	0.10
		208	Non-Volatiles	Styrene Dimers	*Mixture*		57.3	1.98	2.32	2.32	2.32	2.02
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		7	1.40	0.73	2.10	4.01	1.22
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		2.26	0.32	0.17	0.48	0.91	0.28
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	1.67	0.14	0.07	0.21	0.40	0.12
		312	Non-Volatiles	Styrene Trimers	*Mixture*		779.7	3.51	0.74	0.74	0.74	2.56
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	2.1	0.16	0.08	0.24	0.46	0.14
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	<1					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	0.2	0.07	0.04	0.11	0.21	0.06
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	0.34	0.17	0.09	0.25	0.48	0.15
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.82	0.38	0.20	0.57	1.08	0.33
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	3	1.23	0.65	1.85	3.52	1.07
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.					
		104	Volatiles	Styrene	100-42-5	Monomer	71	29.66	15.47	44.39	84.66	25.68
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	<LoQ					
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.2	0.07	0.04	0.11	0.21	0.06
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	14/02/2025 - L4202500036	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	4.22	0.04	0.17	0.17	0.17	0.16
		208	Non-Volatiles	Styrene Dimers	*Mixture*		95.7	3.32	3.87	3.87	3.87	3.37
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		39.7	7.96	4.15	11.92	22.73	6.90
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		12.7	1.79	0.94	2.68	5.12	1.55
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	4.73	0.40	0.21	0.60	1.15	0.35
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1140	5.13	1.08	1.08	1.08	3.74
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	3.43	0.27	0.14	0.40	0.76	0.23
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	1.74	0.13	0.07	0.19	0.36	0.11
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.					
		61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.					
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		60	Volatiles	Acetic acid	64-19-7	Degradation	n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	0.22	0.08	0.04	0.12	0.23	0.07
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	1.11	0.51	0.27	0.77	1.46	0.44
		100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	4	1.64	0.86	2.47	4.69	1.42
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.					
		104	Volatiles	Styrene	100-42-5	Monomer	62	25.90	13.51	38.76	73.93	22.43
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.					
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.29	0.11	0.06	0.16	0.31	0.09
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					
		142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		60	Volatiles	Methyl formate	107-31-3		n.d.					
		56	Volatiles	Acrolein	107-02-8		n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	n.d.					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	17/02/2025 - L4202500037	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	2.76	0.03	0.11	0.11	0.11	0.10
		208	Non-Volatiles	Styrene Dimers	*Mixture*		70.3	2.44	2.84	2.84	2.84	2.47
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		21.1	4.23	2.21	6.34	12.08	3.67
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		7.28	1.03	0.54	1.54	2.94	0.89
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	2.51	0.21	0.11	0.32	0.61	0.18
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1076	4.85	1.02	1.02	1.02	3.53
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	3.43	0.27	0.14	0.40	0.76	0.23
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	1.13	0.08	0.04	0.12	0.24	0.07
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.					
		61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.					
		60	Volatiles	Acetic acid	64-19-7	Degradation	n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.8	0.37	0.19	0.55	1.05	0.32
		100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	1	0.41	0.22	0.62	1.17	0.36
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.					
		104	Volatiles	Styrene	100-42-5	Monomer	51	21.30	11.11	31.88	60.81	18.45
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.					
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		60	Volatiles	Methyl formate	107-31-3		n.d.					
		56	Volatiles	Acrolein	107-02-8		n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	n.d.					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	17/02/2025 - L4202500038	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	3.23	0.03	0.13	0.13	0.13	0.12
		208	Non-Volatiles	Styrene Dimers	*Mixture*		92	3.19	3.72	3.72	3.72	3.24
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		28.5	5.72	2.98	8.56	16.32	4.95
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		9.78	1.38	0.72	2.07	3.94	1.20
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	4.5	0.38	0.20	0.57	1.09	0.33
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1478	6.66	1.40	1.40	1.40	4.85
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	5.15	0.40	0.21	0.60	1.14	0.34
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	1.91	0.14	0.07	0.21	0.40	0.12
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.					
		61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.77	0.36	0.19	0.53	1.01	0.31
		100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	5	2.06	1.08	3.09	5.87	1.78
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.					
		104	Volatiles	Styrene	100-42-5	Monomer	57	23.81	12.42	35.64	67.97	20.62
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.					
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	n.d.					
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					
		142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		60	Volatiles	Methyl formate	107-31-3		n.d.					
		56	Volatiles	Acrolein	107-02-8		n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	n.d.					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	24/02/2025 - L4202500039	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	3.1	0.03	0.13	0.13	0.13	0.12
		208	Non-Volatiles	Styrene Dimers	*Mixture*		78.2	2.71	3.16	3.16	3.16	2.75
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		10	2.01	1.05	3.00	5.73	1.74
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		4.65	0.66	0.34	0.98	1.88	0.57
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	3.35	0.28	0.15	0.43	0.81	0.25
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1259	5.67	1.19	1.19	1.19	4.13
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	5.43	0.42	0.22	0.63	1.20	0.36
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	1.26	0.09	0.05	0.14	0.26	0.08
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.					
		61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	0.2	0.07	0.04	0.11	0.21	0.06
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.65	0.30	0.16	0.45	0.86	0.26
		100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	<LoQ					
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.					
		104	Volatiles	Styrene	100-42-5	Monomer	53	22.14	11.55	33.14	63.20	19.17
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.					
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	n.d.					
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					
		142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		60	Volatiles	Methyl formate	107-31-3		n.d.					
		56	Volatiles	Acrolein	107-02-8		n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	n.d.					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	27/02/2025 - L4202500040	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	4.72	0.05	0.19	0.19	0.19	0.18
		208	Non-Volatiles	Styrene Dimers	*Mixture*		126	4.36	5.09	5.09	5.09	4.43
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		43.8	8.78	4.58	13.15	25.08	7.61
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		16.2	2.29	1.19	3.42	6.53	1.98
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	6.16	0.52	0.27	0.78	1.49	0.45
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1447	6.52	1.37	1.37	1.37	4.75
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	5.78	0.45	0.23	0.67	1.28	0.39
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	2.75	0.20	0.11	0.30	0.58	0.17
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.					
		61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.					
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.67	0.31	0.16	0.46	0.88	0.27
		100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	4	1.64	0.86	2.47	4.69	1.42
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.					
		104	Volatiles	Styrene	100-42-5	Monomer	55	22.97	11.98	34.39	65.58	19.90
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.					
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.2	0.07	0.04	0.11	0.21	0.06
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.					
		128	Volatiles	Octanal	124-13-0	Fragrances	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					
		142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		60	Volatiles	Methyl formate	107-31-3		n.d.					
		56	Volatiles	Acrolein	107-02-8		n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	n.d.					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	28/02/2025 - L4202500041	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	4.18	0.04	0.17	0.17	0.17	0.16
		208	Non-Volatiles	Styrene Dimers	*Mixture*		93.3	3.23	3.77	3.77	3.77	3.28
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		43.6	8.74	4.56	13.09	24.96	7.57
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		16.5	2.33	1.22	3.49	6.65	2.02
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	5.54	0.47	0.25	0.71	1.34	0.41
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1683	7.58	1.59	1.59	1.59	5.53
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	6.41	0.50	0.26	0.74	1.41	0.43
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	2.14	0.16	0.08	0.24	0.45	0.14
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.					
		61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.					
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		72	Volatiles	Butanal	123-72-8	Flavour	n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.8	0.37	0.19	0.55	1.05	0.32
		100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	3	1.23	0.65	1.85	3.52	1.07
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.					
		104	Volatiles	Styrene	100-42-5	Monomer	46	19.21	10.02	28.76	54.85	16.64
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.					
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	n.d.					
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		60	Volatiles	Methyl formate	107-31-3		n.d.					
		56	Volatiles	Acrolein	107-02-8		n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	n.d.					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	03/03/2025 - L4202500042	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	3.68	0.04	0.15	0.15	0.15	0.14
		208	Non-Volatiles	Styrene Dimers	*Mixture*		108	3.74	4.37	4.37	4.37	3.80
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		78.4	15.72	8.20	23.54	44.89	13.62
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		25.2	3.56	1.86	5.33	10.16	3.08
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	5.4	0.46	0.24	0.69	1.31	0.40
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1523	6.86	1.44	1.44	1.44	5.00
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	6	0.46	0.24	0.70	1.32	0.40
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	2.81	0.21	0.11	0.31	0.59	0.18
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.					
		61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.					
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.71	0.33	0.17	0.49	0.93	0.28
		100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	3	1.23	0.65	1.85	3.52	1.07
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.					
		104	Volatiles	Styrene	100-42-5	Monomer	42	17.54	9.15	26.26	50.08	15.19
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.					
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	n.d.					
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					
		142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		60	Volatiles	Methyl formate	107-31-3		n.d.					
		56	Volatiles	Acrolein	107-02-8		n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	n.d.					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	03/03/2025 - L4202500043	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	4	0.04	0.16	0.16	0.16	0.15
		208	Non-Volatiles	Styrene Dimers	*Mixture*		113	3.91	4.57	4.57	4.57	3.97
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		40	8.02	4.18	12.01	22.90	6.95
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		15	2.12	1.10	3.17	6.05	1.84
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	5.83	0.50	0.26	0.74	1.41	0.43
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1693	7.63	1.60	1.60	1.60	5.56
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	7.57	0.59	0.31	0.88	1.67	0.51
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	3.02	0.22	0.12	0.33	0.63	0.19
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.					
		61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.6	0.28	0.14	0.41	0.79	0.24
		100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	2	0.82	0.43	1.24	2.35	0.71
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.					
		104	Volatiles	Styrene	100-42-5	Monomer	40	16.71	8.71	25.01	47.69	14.47
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.					
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	<LoQ					
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	0.43	0.16	0.08	0.24	0.45	0.14
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					
		142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		60	Volatiles	Methyl formate	107-31-3		n.d.					
		56	Volatiles	Acrolein	107-02-8		n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	n.d.					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	17/03/2025 - L4202500044	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	2.81	0.03	0.11	0.11	0.11	0.11
		208	Non-Volatiles	Styrene Dimers	*Mixture*		135	4.68	5.46	5.46	5.46	4.75
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		20	4.01	2.09	6.01	11.45	3.47
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		14.6	2.06	1.08	3.09	5.89	1.79
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	3.84	0.33	0.17	0.49	0.93	0.28
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1504	6.77	1.43	1.43	1.43	4.94
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	4.81	0.37	0.19	0.56	1.06	0.32
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	1.97	0.14	0.08	0.22	0.41	0.13
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.					
		61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.					
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		72	Volatiles	Butanal	123-72-8	Flavour	n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.73	0.34	0.18	0.50	0.96	0.29
		100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	0.21	0.04	0.02	0.06	0.11	0.03
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	1	0.41	0.22	0.62	1.17	0.36
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	0.23	0.09	0.05	0.14	0.27	0.08
		104	Volatiles	Styrene	100-42-5	Monomer	36	15.04	7.84	22.51	42.93	13.02
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.49	0.18	0.09	0.27	0.52	0.16
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	0.22	0.09	0.05	0.14	0.26	0.08
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.63	0.23	0.12	0.35	0.66	0.20
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	<LoQ					
		128	Volatiles	Octanal	124-13-0	Fragrances	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	<LoQ					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					
		142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		60	Volatiles	Methyl formate	107-31-3		n.d.					
		56	Volatiles	Acrolein	107-02-8		n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE AIR	17/03/2025 - L4202500045	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	2.58	0.03	0.10	0.10	0.10	0.10
		208	Non-Volatiles	Styrene Dimers	*Mixture*		147	5.09	5.94	5.94	5.94	5.17
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		25.6	5.13	2.68	7.69	14.66	4.45
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		13.7	1.94	1.01	2.90	5.52	1.68
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	3.75	0.32	0.17	0.48	0.91	0.28
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1531	6.90	1.45	1.45	1.45	5.03
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	3.68	0.28	0.15	0.43	0.81	0.25
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	2.16	0.16	0.08	0.24	0.45	0.14
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.					
		61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.					
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		72	Volatiles	Butanal	123-72-8	Flavour	n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.22	0.10	0.05	0.15	0.29	0.09
		100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	0.2	0.04	0.02	0.06	0.11	0.03
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	2	0.82	0.43	1.24	2.35	0.71
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	0.2	0.08	0.04	0.12	0.23	0.07
		104	Volatiles	Styrene	100-42-5	Monomer	39	16.29	8.50	24.38	46.50	14.11
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.42	0.15	0.08	0.23	0.44	0.13
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.51	0.19	0.10	0.28	0.54	0.16
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.					
		128	Volatiles	Octanal	124-13-0	Fragrances	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	<LoQ					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					
		142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		60	Volatiles	Methyl formate	107-31-3		n.d.					
		56	Volatiles	Acrolein	107-02-8		n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE LAND	18/03/2025 - L4202500056	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	3.2	0.03	0.13	0.13	0.13	0.12
		208	Non-Volatiles	Styrene Dimers	*Mixture*		208	7.21	8.41	8.41	8.41	7.32
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		44.4	8.90	4.64	13.33	25.42	7.71
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		11.6	1.64	0.85	2.45	4.68	1.42
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	1.36	0.12	0.06	0.17	0.33	0.10
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1630	7.34	1.54	1.54	1.54	5.35
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	3.08	0.24	0.12	0.36	0.68	0.21
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	<1					
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.					
		61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.					
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		72	Volatiles	Butanal	123-72-8	Flavour	n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.87	0.40	0.21	0.60	1.15	0.35
		100	Volatiles	Hexanal	66-25-1	Fragrances	<LoQ					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	0.31	0.06	0.03	0.09	0.17	0.05
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	8	3.29	1.72	4.94	9.39	2.84
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	1.09	0.45	0.23	0.67	1.28	0.39
		104	Volatiles	Styrene	100-42-5	Monomer	79	33.00	17.21	49.39	94.20	28.58
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	1.82	0.67	0.35	1.00	1.91	0.58
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	5.02	1.85	0.96	2.77	5.28	1.60
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	0.62	0.23	0.12	0.34	0.65	0.20
		128	Volatiles	Octanal	124-13-0	Fragrances	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					
		142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		60	Volatiles	Methyl formate	107-31-3		n.d.					
		56	Volatiles	Acrolein	107-02-8		n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
		212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	2.2	0.02	0.09	0.09	0.09	0.08
		208	Non-Volatiles	Styrene Dimers	*Mixture*		139	4.82	5.62	5.62	5.62	4.89
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		10.4	2.09	1.09	3.12	5.95	1.81
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		1.12	0.16	0.08	0.24	0.45	0.14
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	1.12	0.10	0.05	0.14	0.27	0.08
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1184	5.33	1.12	1.12	1.12	3.89
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	2.62	0.20	0.11	0.30	0.58	0.18
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	<1					
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.					
		61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.					
		72	Volatiles	Butanal	123-72-8	Flavour	n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.					
PS REFENCE LAND	19/03/2025 - L4202500057	92	Volatiles	Toluene	108-88-3	Polymerization product	0.84	0.39	0.20	0.58	1.11	0.34
		100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ					
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	5	2.06	1.08	3.09	5.87	1.78
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	0.95	0.39	0.20	0.58	1.11	0.34
		104	Volatiles	Styrene	100-42-5	Monomer	70	29.24	15.25	43.76	83.47	25.32
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	1.48	0.55	0.28	0.82	1.56	0.47
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ					
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	3.89	1.43	0.75	2.15	4.09	1.24
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	0.5	0.18	0.10	0.28	0.52	0.16
		128	Volatiles	Octanal	124-13-0	Fragrances	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					
		142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		60	Volatiles	Methyl formate	107-31-3		n.d.					
		56	Volatiles	Acrolein	107-02-8		n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ					

Product	Production Date & Lot Number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Cold filled Yogurt [ppb]	Trays for meat, fish or cheese [ppb]	Trays for food and vegetables [ppb]	Cups for cold drinks [ppb]	Cups for hot drinks [ppb]
PS REFENCE LAND	20/03/2025 - L4202500058	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1					
		208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1					
		157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1					
		220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1					
		196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	2.19	0.02	0.09	0.09	0.09	0.08
		208	Non-Volatiles	Styrene Dimers	*Mixture*		141	4.88	5.70	5.70	5.70	4.96
		240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1					
		210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		23.7	4.75	2.48	7.12	13.57	4.12
		271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		16.2	2.29	1.19	3.42	6.53	1.98
		371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	1.92	0.16	0.09	0.24	0.47	0.14
		312	Non-Volatiles	Styrene Trimers	*Mixture*		1272	5.73	1.21	1.21	1.21	4.18
		391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	3.73	0.29	0.15	0.43	0.82	0.25
		402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	1.45	0.11	0.06	0.16	0.30	0.09
		74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.					
		74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.					
		61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.					
		70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.					
		72	Volatiles	Butanal	123-72-8	Flavour	n.d.					
		120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.					
		84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.					
		86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.					
		92	Volatiles	Toluene	108-88-3	Polymerization product	0.96	0.44	0.23	0.66	1.26	0.38
		100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.					
		222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	0.26	0.05	0.03	0.07	0.14	0.04
		106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	3	1.23	0.65	1.85	3.52	1.07
		106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	0.64	0.26	0.14	0.39	0.75	0.23
		104	Volatiles	Styrene	100-42-5	Monomer	62	25.90	13.51	38.76	73.93	22.43
		120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	1.2	0.44	0.23	0.66	1.26	0.38
		106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	0.2	0.08	0.04	0.12	0.23	0.07
		120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	3.1	1.14	0.60	1.71	3.26	0.99
		120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	0.35	0.13	0.07	0.19	0.37	0.11
		128	Volatiles	Octanal	124-13-0	Fragrances	n.d.					
		170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.					
		142	Volatiles	Decane	124-18-5	Mineral oil	n.d.					
		130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.					
		136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ					
		120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.					
		142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.					
		156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.					
		60	Volatiles	Methyl formate	107-31-3		n.d.					
		56	Volatiles	Acrolein	107-02-8		n.d.					
		371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ					

In order to evaluate the migration of each substance present in the decontaminated rPS the following scenario is evaluated:

- "Worst case": when the contaminant concentration, both for input and output batches, is lower than LoQ (Limit of Quantification) the concentration is assumed equal to the LoQ that is 1 ppm for non volatile contaminants and 0,2 ppm for volatile contaminants. When the concentration is n.d. (not determinable) the concentration of each contaminant is assumed to be equal to 0,1 ppm (LoD, Limit of detection).

In the following Table 9 the estimated migration level is evaluated for each substance present in output batches.

Table 9: Migration level in the worst case

MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Worst Case <1 = 1 [ppm]	Cold filled yougurt foodstuff [ppb]	Trays for meat, fish or cheese foodstuff [ppb]	Trays for food and vegetables foodstuff [ppb]	Cups for cold drinks foodstuff [ppb]	Cups for hot drinks foodstuff [ppb]
212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	1	0.198	0.103	0.297	0.566	0.172
208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	1	0.203	0.106	0.304	0.579	0.176
157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		1	0.282	0.147	0.422	0.806	0.244
220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	1	0.189	0.098	0.282	0.539	0.164
196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	1	0.011	0.040	0.040	0.040	0.038
208	Non-Volatiles	Styrene Dimers	*Mixture*		1	0.035	0.040	0.040	0.040	0.035
240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	1	0.168	0.088	0.252	0.480	0.146
210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	1	0.201	0.105	0.300	0.573	0.174
210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		1	0.201	0.105	0.300	0.573	0.174
271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		1	0.141	0.074	0.211	0.403	0.122
174	Non-Volatiles	Dimethyl Adipate	*627-93-0*	Additive: Ink solvent	1	0.252	0.131	0.376	0.719	0.218
371	Non-Volatiles	Dioctyl Adipate	*103-23-1*	Additive: Plasticizer	1	0.085	0.044	0.127	0.242	0.074
312	Non-Volatiles	Styrene Trimers	*Mixture*		1	0.005	0.001	0.001	0.001	0.003
391	Non-Volatiles	Dioctyl Phthalate	*117-81-7*	Additive: Plasticizer	1	0.077	0.041	0.116	0.221	0.067
391	Non-Volatiles	Dioctyl Terephthalate	*6422-86-2*	Additive: Plasticizer	1	0.077	0.040	0.116	0.221	0.067
402	Non-Volatiles	Acetyltributylcitrate	*77-90-7*	Additive: Plasticizer	1	0.073	0.038	0.110	0.210	0.064

MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Worst Case <0.2 = 0.2 [ppm]	Cold filled yougurt foodstuff [ppb]	Trays for meat, fish or cheese foodstuff [ppb]	Trays for food and vegetables foodstuff [ppb]	Cups for cold drinks foodstuff [ppb]	Cups for hot drinks foodstuff [ppb]
74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	0.2	0.108	0.056	0.161	0.309	0.094
74	Volatiles	Methyl methoxyacetate	6290-49-9		0.2	0.108	0.056	0.161	0.309	0.094
61	Volatiles	o-Ethylhydroxylamine	624-82-2		0.2	0.122	0.064	0.183	0.349	0.106
70	Volatiles	2-Pentene, (Z)-	627-20-3		0.2	0.112	0.059	0.168	0.320	0.097
72	Volatiles	Butanal	123-72-8	Flavour	0.2	0.110	0.057	0.165	0.314	0.095
60	Volatiles	Acetic acid	64-19-7	Degradation	0.2	0.124	0.065	0.185	0.353	0.107
120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	0.2	0.074	0.038	0.110	0.210	0.064
84	Volatiles	Cyclohexane	110-82-7	Polymerization product	0.2	0.099	0.052	0.148	0.282	0.086
86	Volatiles	Pentanal	110-62-3	Fragrances	0.2	0.097	0.051	0.145	0.277	0.084
92	Volatiles	Toluene	108-88-3	Polymerization product	0.2	0.092	0.048	0.138	0.263	0.080
100	Volatiles	Hexanal	66-25-1	Fragrances	0.2	0.086	0.045	0.129	0.246	0.075
116	Volatiles	4-Hydroxy-4-methyl-2-pentanone	123-42-2	Feedstock contaminant	0.2	0.076	0.040	0.114	0.217	0.066
222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	0.2	0.037	0.019	0.056	0.107	0.032
106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	0.2	0.082	0.043	0.124	0.235	0.071
106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	0.2	0.082	0.043	0.123	0.234	0.071
104	Volatiles	Styrene	100-42-5	Monomer	0.2	0.084	0.044	0.125	0.238	0.072
120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.2	0.074	0.038	0.110	0.210	0.064
106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	0.2	0.082	0.043	0.123	0.235	0.071
120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.2	0.074	0.038	0.110	0.210	0.064
120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	0.2	0.074	0.038	0.110	0.210	0.064
128	Volatiles	Octanal	124-13-0	Fragrances	0.2	0.069	0.036	0.104	0.198	0.060
170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	0.2	0.052	0.027	0.077	0.148	0.045
142	Volatiles	Decane	124-18-5	Mineral oil	0.2	0.063	0.033	0.094	0.179	0.054
130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	0.2	0.068	0.036	0.102	0.195	0.059
136	Volatiles	D-Limonene	5989-27-5	Post-consumer	0.2	0.065	0.034	0.098	0.187	0.057
120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	0.2	0.074	0.038	0.110	0.210	0.064
142	Volatiles	Nonanal	124-19-6	Fragrances	0.2	0.063	0.033	0.094	0.179	0.054
156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	0.2	0.057	0.030	0.085	0.162	0.049
60	Volatiles	Methyl formate	107-31-3		0.2	0.124	0.065	0.185	0.353	0.107
56	Volatiles	Acrolein	107-02-8		0.2	0.129	0.067	0.193	0.367	0.112
371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	0.2	0.017	0.009	0.025	0.048	0.015

MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Worst Case <0.1 = 0.1 [ppm]	Cold filled yougurt foodstuff [ppb]	Trays for meat, fish or cheese foodstuff [ppb]	Trays for food and vegetables foodstuff [ppb]	Cups for cold drinks foodstuff [ppb]	Cups for hot drinks foodstuff [ppb]
74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	0.1	0.054	0.028	0.081	0.155	0.047
74	Volatiles	Methyl methoxyacetate	6290-49-9		0.1	0.054	0.028	0.081	0.155	0.047
61	Volatiles	o-Ethylhydroxylamine	624-82-2		0.1	0.061	0.032	0.092	0.174	0.053
70	Volatiles	2-Pentene, (Z)-	627-20-3		0.1	0.056	0.029	0.084	0.160	0.049
72	Volatiles	Butanal	123-72-8	Flavour	0.1	0.055	0.029	0.082	0.157	0.048
60	Volatiles	Acetic acid	64-19-7	Degradation	0.1	0.062	0.032	0.093	0.176	0.054
120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	0.1	0.037	0.019	0.055	0.105	0.032
84	Volatiles	Cyclohexane	110-82-7	Polymerization product	0.1	0.049	0.026	0.074	0.141	0.043
86	Volatiles	Pentanal	110-62-3	Fragrances	0.1	0.049	0.025	0.073	0.139	0.042
92	Volatiles	Toluene	108-88-3	Polymerization product	0.1	0.046	0.024	0.069	0.132	0.040
100	Volatiles	Hexanal	66-25-1	Fragrances	0.1	0.043	0.023	0.065	0.123	0.037
116	Volatiles	4-Hydroxy-4-methyl-2-pentanone	123-42-2	Feedstock contaminant	0.1	0.038	0.020	0.057	0.109	0.033
222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	0.1	0.019	0.010	0.028	0.053	0.016
106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	0.1	0.041	0.022	0.062	0.117	0.036
106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	0.1	0.041	0.021	0.061	0.117	0.036
104	Volatiles	Styrene	100-42-5	Monomer	0.1	0.042	0.022	0.063	0.119	0.036
120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.1	0.037	0.019	0.055	0.105	0.032
106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	0.1	0.041	0.021	0.062	0.117	0.036
120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.1	0.037	0.019	0.055	0.105	0.032
120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	0.1	0.037	0.019	0.055	0.105	0.032
128	Volatiles	Octanal	124-13-0	Fragrances	0.1	0.035	0.018	0.052	0.099	0.030
170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	0.1	0.026	0.013	0.039	0.074	0.022
142	Volatiles	Decane	124-18-5	Mineral oil	0.1	0.031	0.016	0.047	0.089	0.027
130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	0.1	0.034	0.018	0.051	0.098	0.030
136	Volatiles	D-Limonene	5989-27-5	Post-consumer	0.1	0.033	0.017	0.049	0.093	0.028
120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	0.1	0.037	0.019	0.055	0.105	0.032
142	Volatiles	Nonanal	124-19-6	Fragrances	0.1	0.031	0.016	0.047	0.089	0.027
156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	0.1	0.028	0.015	0.043	0.081	0.025
60	Volatiles	Methyl formate	107-31-3		0.1	0.062	0.032	0.093	0.176	0.054
56	Volatiles	Acrolein	107-02-8		0.1	0.064	0.034	0.096	0.184	0.056
371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	0.1	0.008	0.004	0.013	0.024	0.007

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The analysis allows to assert that migration of any substance stays well below levels of concern. This is evident by comparison of the values reported in Table 8 and Table 9 with the ones reported in the Table 10 below were the maximum migration level and maximum safe concentration of all the substance found (please refer to Table 4) in the output batches is reported.

For most of the contaminants reported in Table 10 the MSEC (TTC) values are taken from [13] and from [14].

It must be underlined that in the Table 10 for the contaminants: Butylated Hydroxytoluene (BHT), Toluene, Ethylbenzene, 1,3-Dimethyl Benzene, Dioctyl Phthalate, Dioctyl Adipate, Dioctyl Terephthalate and Acetyltributylcitrate the following assumption has been done:

- Butylated Hydroxytoluene (BHT): in this case, according to [2], the SML value has used instead of MSEC (TTC) approach, as highlighted by * in Table 10. The used SML value is 3 mg/kg.
- Toluene: in this case, according to [15], the SML value has used instead of MSEC (TTC) approach, as highlighted by * in Table 10. The used SML value is 1.2 mg/kg.
- Ethyl Benzene: in this case, according to [15], the SML value has used instead of MSEC (TTC) approach, as highlighted by * in Table 10. The used SML value is 0.6 mg/kg.
- 1,3-Dimethyl Benzene: in this case, according to [15], the SML value has used instead of MSEC (TTC) approach, as highlighted by * in Table 10. The used SML value is 1.2 mg/kg.
- Dioctyl Phthalate: in this case, according to [2], the SML value has used instead of MSEC (TTC) approach, as highlighted by * in Table 10. The used SML value is 0.6 mg/kg.
- Dioctyl Adipate: in this case, according to [13], the SML value has used instead of MSEC (TTC) approach, as highlighted by * in Table 10. The used SML value is 18 mg/kg.

- Dioctyl Terephthalate: in this case, according to [13], the SML value has used instead of MSEC (TTC) approach, as highlighted by * in Table 10. The used SML value is 60 mg/kg.
- Acetyltributylcitrate: in this case, according to [13], the SML value has used instead of MSEC (TTC) approach, as highlighted by * in Table 10. The used SML value is 60 mg/kg.

Furthermore, for the following contaminants: styrene dimers, styrene trimers and 1,3-Diphenylpropane, indicated in Table 10 with **, starting from the article by Genualdi et al. [11], to ensure an even greater level of detail, more accurate information relating to the migrations of styrene dimers and trimers, could be introduced into the model. In particular, the partition coefficient and the diffusion coefficient of equation (1) (reported in Paragraph 7) could be modified according to the values obtained from experimental trials, so that the previously determined MSC values for the dimers and trimers of styrene, can be reconsidered and made more consistent with real data.

Table 10: Maximum migration level and maximum safe concentration of all the substance found in the output batches

				Pot for cold filled yogurt, 250 g yogurt per day for a toddler, storage for 40 d at 6 °C		Trays for meat, fish or cheese, 150 g per day for a toddler, storage for 30 d at 6 °C		Tray for fruit or vegetables, 500 g per day for a toddler, storage for 30 d at 25 °C		Cup for cold drinks, 750 ml cold drinks per day for a toddler, storage for 1 d at 25 °C		Cup for hot drinks, 750 ml hot drinks per day for a toddler, storage for 2 h at 70 °C	
Contaminants	**MW [g/mol]**	**CAS Number**	**MSEC (TTC) value per Toddler (10 kg) [µg/day] [2], [5], [6], [13], [14]**	**Max migration [mg/kg foodstuff]**	**MSC: Max safe concentration in the PS packaging [mg/kg]**	**Max migration [mg/kg foodstuff]**	**MSC: Max safe concentration in the PS packaging [mg/kg]**	**Max migration [mg/kg foodstuff]**	**MSC: Max safe concentration in the PS packaging [mg/kg]**	**Max migration [mg/kg foodstuff]**	**MSC: Max safe concentration in the PS packaging [mg/kg]**	**Max migration [mg/kg foodstuff]**	**MSC: Max safe concentration in the PS packaging [mg/kg]**
[2.2]Paracyclophane	208	1633-22-3	15	0.3	1477	0.5	2843	0.15	259	0.1	944	0.1	329
1,2,3-Trimethylbenzene	120	526-73-8	15	0.3	814	0.5	1567	0.15	143	0.1	520	0.1	181
1,3-Dimethyl benzene	106	108-38-3	*	1.2 (SML)	2919	1.2 (SML)	3371	1.2 (SML)	1023	1.2 (SML)	5598	1.2 (SML)	1947
1,3-Diphenylpropane	196	1081-75-0	15	0.06	5630**	0.1	2640**	0.03	742**	0.03	742**	0.03	742**
1-Methylethylbenzene	120	98-82-8	300	6	16285	10	31339	3	2852	2	10409	2	3627
2,2,4,6,6-Pentamethylheptane	170	13475-82-6	300	6	23213	10	44671	3	4065	2	14838	2	5170
2-Ethyl-1-hexanol	130	104-76-7	300	6	17554	10	33782	3	3075	2	11220	2	3909
2-Methyl-2-Propanol	74	75-65-0	15	0.3	555	0.5	1068	0.15	97	0.1	355	0.1	124
2-Pentene, (Z)-	70	627-20-3	300	6	10690	10	20572	3	1873	2	6832	2	2381
Acetic acid	60	64-19-7	300	6	9702	10	18670	3	1700	2	6201	2	2161
Acetophenone	120	98-86-2	300	6	16285	10	31339	3	2852	2	10409	2	3627
Acrolein	56	107-02-8	90	1.8	2795	3	5378	0.9	490	0.6	1786	0.6	623
Benzaldehyde	106	100-52-7	300	6	14597	10	28091	3	2557	2	9330	2	3251
Butanal	72	123-72-8	300	6	10892	10	20961	3	1908	2	6962	2	2426
Butylated Hydroxytoluene (BHT)	220	128-37-0	*	3 (SML)	15833	3 (SML)	18340	3 (SML)	5563	3 (SML)	30459	3 (SML)	10590
C14H14N2	210	*Brute formula*	15	0.3	1496	0.5	2878	0.15	262	0.1	956	0.1	333
Cyclohexane	84	110-82-7	300	6	12140	10	23363	3	2127	2	7760	2	2704
Decamethylcyclopentasiloxane	371	541-02-6	15	0.3	3533	0.5	6797	0.15	619	0.1	2258	0.1	787
Decane	142	124-18-5	300	6	19151	10	36855	3	3354	2	12241	2	4265
Dimethoxydimethylsilane	120	1112-39-6	15	0.3	814	0.5	1567	0.15	143	0.1	520	0.1	181
Dimethyl Adipate	174	627-93-0	300	6	23833	10	45866	3	4174	2	15235	2	5297
Dioctyl Phthalate	391	117-81-7	*	0.6 (SML)	7764	0.6 (SML)	8965	0.6 (SML)	2719	0.6 (SML)	14888	0.6 (SML)	5176
Dioctyl Adipate	371	103-23-1	*	18 (SML)	211964	18 (SML)	244758	18 (SML)	74228	18 (SML)	406498	18 (SML)	141326
Dioctyl Terephthalate	391	6422-86-2	*	60 (SML)	776387	60 (SML)	896487	60 (SML)	271875	60 (SML)	1488842	60 (SML)	517640
Acetyltributylcitrate	402	77-90-7	*	60 (SML)	816950	60 (SML)	943326	60 (SML)	286078	60 (SML)	1566547	60 (SML)	544683
D-Limonene	136	5989-27-5	300	6	18342	10	35299	3	3213	2	11724	2	4085
Ethylbenzene	106	100-41-4	*	0.6 (SML)	1460	0.6 (SML)	1685	0.6 (SML)	511	0.6 (SML)	2799	0.6 (SML)	973
Heptadecane	240	629-78-7	300	6	35710	10	68722	3	6253	2	22826	2	7952
Hexamethylcyclotrisiloxane	222	541-05-9	15	0.3	1607	0.5	3093	0.15	281	0.1	1027	0.1	358
Hexanal	100	66-25-1	300	6	13904	10	26758	3	2436	2	8887	2	3097
Methyl formate	60	107-31-3	300	6	9702	10	18670	3	1700	2	6200	2	2161
Methyl methoxyacetate	74	6290-49-9	15	0.3	555	0.5	1068	0.15	97	0.1	355	0.1	124
Nonanal	142	124-19-6	300	6	19151	10	36854	3	3354	2	12241	2	4265
Octanal	128	124-13-0	300	6	17296	10	33285	3	3029	2	11054	2	3852
o-Ethylhydroxylamine	61	624-86-2	15	0.3	490	0.5	943	0.15	86	0.1	313	0.1	109
Pentadecane	212	629-62-9	300	6	30277	10	58266	3	5302	2	19354	2	6743
Pentanal	86	110-62-3	300	6	12354	10	23775	3	2164	2	7896	2	2752
Propylbenzene	120	103-65-1	300	6	16285	10	31339	3	2852	2	10409	2	3627
Styrene	104	100-42-5	300	6	14364	10	27643	3	2516	2	9181	2	3199
Styrene Acrylonitrile Trimer (An2S)	210	*Oligomer*	15	0.3	1496	0.5	2878	0.15	262	0.1	956	0.1	333
Styrene Acrylonitrile Trimer (AnS2)	271	*Oligomer*	15	0.3	2124	0.5	4087	0.15	372	0.1	1358	0.1	473
Styrene Dimers	208	*Mixture*	15	0.06	1732**	0.1	2843**	0.03	742**	0.03	742**	0.03	742**
Styrene Trimers	312	*Mixture*	15	0.06	13321**	0.1	30457**	0.03	31661**	0.03	31661**	0.03	31661**
Styrene-Acrylonitrile Dimers	157	*Mixture*	15	0.3	1063	0.5	2046	0.15	186	0.1	680	0.1	237
Toluene	92	108-88-3	*	1.2 (SML)	2601	1.2 (SML)	3004	1.2 (SML)	911	1.2 (SML)	4988	1.2 (SML)	1735
Undecane	156	1120-21-4	300	6	21120	10	40647	3	3699	2	13501	2	4704

8) Detailed description of the applied sampling strategy – Art. 13 (5g)

The sampling strategy is different between input flakes and decontaminated final product.

For the input a sample of 0,5 Kg is sampled after Step 1. For the output decontaminated material, a sample of 50 g is collected every 2 ton of rPS produced. By taking into account the flow rate of the plant (about 4 t/h) a sample of 50 g is collected every 30 minutes of production. Because a lot of rPS is consisting of 100 ton of material, 2500 g of rPS are collected. The collected samples of each single rPS output batch are mixed together to form a mean sample.

Consistent with Art. 13 (1) of regulation 2022/1616, sample of each input batches and their resultant output batches were collected. Twenty-nine batches were produced during the time covered by this report and each of these were sampled and analyzed for the following substances:

- Volatiles
- Non-Volatiles

The analysis was carried out by an independent third-part laboratory. The laboratory was chosen based on its experience in analyzing plastic samples and its relevant analytical equipment and validated methods.

9) Detailed description of the analytical procedures and methods used – Art. 13 (5h)

Samples of PS input batches and corresponding output batches were labelled for traceability purposes and shipped in clear and hermetically sealed containers. The analytical procedures and method used for the analysis of the samples as well as their limits of detection and quantification are summarized. Analysis of organic substances is done through a non-targeted screening of volatile and non-volatile substances with two different methods. These techniques are very versatile and are employed in a wide range of industries and research areas to identify, quantify, and characterize volatile and non-volatile compounds in plastic/polymer samples.

Determination of volatile substance (except for styrene and ethylbenzene)

Introduce 1g of flakes (for input batch analysis) or 1g of granules (for output batch analysis) into a 10mL headspace vial with a cap equipped with a perforable silicone/PTFE septum. 5-10 µL of a methanol solution of internal standard, i.e. chlorobenzene, at approximately 3000 ppm are added. The sample is thermostatated at 125 °C for 30 minutes and then injected into GC-MS.

Instrumentations: HP6890 GC interfaced to HP5975 MS with EI source and single quadrupole analyzer, equipped with SSL injector, FID detector and HTA 300HT headspace autosampler

Chromatography column: Mega-JXR 25m x 0.25mm x 1.50µm (or equivalent)

Thermostatation: 125 °C for 30 minutes

Injector T: 260 °C

Injection volume: 1 ml

Injection technique: split 30:1

Column flow (He): 0.8 mL/min (constant flow mode)

Temperature ramp: initial isotherm at 40 °C for 3 minutes, then T ramp (2 °C/min) up to 70 °C, isotherm at 70 °C for 5 minutes, then T ramp (2 °C/min) up to 160 °C, isotherm at 160 °C for 20 minutes, then T ramp (2 °C/min) up to 250 °C, isotherm at 250 °C for 5 minutes

T transfer line: 260 °C

Response factor 1 is given with respect to the internal standard for all compounds.

Determination of volatile substance (styrene and ethylbenzene)

The determination of styrene and ethylbenzene (volatile compound) is performed using Versalis internal method. Please refer to Annex 4 for the detailed procedure.

Determination of non-volatile compounds

0,5g of flakes (for input batch analysis) or 0,5g of granules (for output batch analysis) are dissolved with 3 mL of an internal standard solution in $CHCl_3$ (di-butyl phthalate at approximately 15 ppm, for foreign substances, and n-C16 at approximately 50 ppm, for oligomers), then precipitates with 8 mL of EtOH under mechanical stirring. The resulting solution is filtered through 0.45 µm pore syringe filters and injected into the GC (for quantitative purposes) or GC-MS (for qualitative purposes).

Instrumentation: GC Thermo Trace 1300, equipped with on-column injector and FID detector and TriPlus autosampler

Chromatography column: HP-1 25m x 0.320mm x 0.52µm (or equivalent)

Injection technique: Cold-On-Column

Injection volume: 1 µL

Column flow (H_2): 2 mL/min for 1 minute, then flow ramp (0.2 mL/min) up to 4.2 mL/min (programmed flow mode)

Temperature ramp: initial temperature at 60 °C, then T ramp (40 °C/min) up to 160 °C, isotherm at 160 °C for 5 minutes, then T ramp (8 °C/min) up to 325 °C, isotherm at 325 °C for 5 minutes.

T detector: 330°C

Response factor 1 is given with respect to the internal standard for all compounds

10) Analysis and explanation of any discrepancies observed between contaminant levels expected in the input plastic and in the output of the installation and its decontamination efficiency – Art.13 (5i)

In order to evaluate the average decontamination efficiency for each substance the following two scenario are evaluated:

- "Worst case": when the contaminant concentration, both for input and output batches, is lower than LoQ (Limit of Quantification) the concentration is assumed equal to the LoQ that is 1 ppm for non-volatile contaminants and 0,2 ppm for volatile contaminants. When the concentration is n.d. (not determinable) the concentration of each contaminant is assumed to be equal to 0,1 ppm (LoD, Limit of detection);
- "Best case": when the contaminant concentration, both for input and output batches, is lower than LoQ the concentration is assumed equal to the LoQ that is 1 ppm for non volatile contaminants and 0,2 ppm for volatile contaminants. When the concentration is n.d. the concentration of each contaminant is assumed to be equal to 0 ppm;

Table 11: Decontamination efficiency in both worst and best cases

Substance	*MW [g/mol]*	Occurrence	Average Decontamination Efficiency Worst cases [%]	Standard Deviation Decontamination Efficiency Worst cases [%]	Average Decontamination Efficiency Best Cases [%]	Standard Deviation Decontamination Efficiency Best Cases [%]	Average Input† [ppm]
[2.2]Paracyclophane	*208*	29	0.12	0.63	0.12	0.63	0.77
1,3-Dimethyl benzene	*106*	29	77.58	21.26	85.30	24.34	1.25
1,3-Diphenylpropane	*196*	29	40.93	30.16	40.93	30.16	6.17
1-Methylethylbenzene	*120*	29	77.77	22.34	81.54	24.84	1.49
Benzaldehyde	*106*	29	57.44	24.73	68.11	32.03	0.49
Butylated Hydroxytoluene (BHT)	*220*	29	0.00	0.00	0.00	0.00	0.76
Cyclohexane	*84*	29	76.30	22.97	93.67	21.39	1.02
D-Limonene	*136*	29	68.32	35.25	87.79	30.49	5.16
Ethylbenzene	*106*	29	37.34	33.42	37.34	33.42	7.63
Heptadecane	*240*	29	3.55	14.43	3.55	14.43	0.95
Pentadecane	*212*	29	15.37	33.76	15.37	33.76	5.21
Propylbenzene	*120*	29	75.33	28.23	77.19	29.56	1.80
Styrene	*104*	29	34.68	30.70	34.68	30.70	108.31
Styrene Acrylonitrile Trimer (An2S)	*210*	29	27.17	35.18	27.17	35.18	34.77
Styrene Acrylonitrile Trimer (AnS2)	*271*	29	23.92	30.15	23.92	30.15	10.49
Styrene Dimers	*208*	29	55.56	21.39	55.56	21.39	307.43
Styrene Trimers	*312*	29	20.03	21.99	20.03	21.99	1505.91
Styrene-Acrylonitrile Dimers	*157*	29	9.90	25.42	9.90	25.42	1.18
Toluene	*92*	29	66.82	13.48	66.82	13.48	2.79
1,2,3-Trimethylbenzene	*120*	27	48.06	29.77	67.26	39.93	0.43
2,2,4,6,6-Pentamethylheptane	*170*	27	71.91	27.61	99.00	3.63	1.15
Hexamethylcyclotrisiloxane	*222*	27	73.13	26.97	83.89	26.76	1.42
Acetophenone	*120*	25	69.84	36.26	82.52	36.98	1.14
Dimethoxydimethylsilane	*120*	23	55.16	33.46	67.95	40.06	0.46
2-Methyl-2-Propanol	*74*	22	76.46	24.09	99.17	3.89	0.83
2-Ethyl-1-hexanol	*130*	21	85.59	25.98	100.00	0.00	4.06
Acetyltributylcitrate	*402*	21	72.73	38.47	72.73	38.47	59.62
Decane	*142*	21	75.43	21.20	100.00	0.00	0.62
Dioctyl Adipate	*371*	21	57.32	45.34	57.32	45.34	36.67
Dioctyl Terephthalate	*391*	21	54.56	39.80	54.56	39.80	32.62
Hexanal	*100*	21	78.29	32.25	86.59	32.86	1.66
Methyl methoxyacetate	*74*	21	61.47	24.63	86.64	31.25	0.37
Undecane	*156*	21	74.19	20.57	100.00	0.00	0.56
2-Pentene, (Z)-	*70*	20	59.53	18.30	100.00	0.00	0.31
Decamethylcyclopentasiloxane	*371*	20	68.75	35.56	73.08	38.43	0.95
Pentanal	*86*	19	70.58	31.99	84.21	37.46	0.63
o-Ethylhydroxylamine	*61*	18	81.75	14.50	100.00	0.00	0.86
Acrolein	*56*	16	97.78	1.40	100.00	0.00	5.98
Methyl formate	*60*	16	98.80	0.44	100.00	0.00	9.78
Nonanal	*142*	15	75.97	6.13	100.00	0.00	0.44
Butanal	*72*	14	55.84	15.55	100.00	0.00	0.25
Octanal	*128*	11	57.47	17.45	100.00	0.00	0.28
C14H14N2	*210*	8	10.59	21.35	10.59	21.35	17.91
Dimethyl Adipate	*174*	8	0.00	0.00	0.00	0.00	0.75
Dioctyl Phthalate	*391*	8	0.00	0.00	0.00	0.00	0.75
Acetic acid	*60*	6	42.56	42.80	55.56	50.18	0.72

In order to evaluate which substances are formed by degradation of polystyrene an additional experimental test has been performed. A sample of virgin polystyrene homopolymer (GPPS) was heated at 260°C for 4 hours in a closed vials under nitrogen atmosphere. In the Table 12 below the concentration of the volatile substances present in GPPS is reported:

† The contaminant concentration in the input is calculated by taking into account the dilution of the flakes with virgin GPPS/HIPS that is 75%. (Except for Styrene, Toluene, Styrene Dimers and Styrene Trimers that are present also in virgin materials).
* Substances formed by flakes degradation.
** Substances usually used in the production of styrenic materials (additives).

Table 12: Screening of volatiles substances formed by GPPS thermal degradation

Substance	GPPS	GPPS @ 260 °C – 4h
	[ppm]	[ppm]
Benzene, 1-methoxyethyl	n.d.	0.6
Toluene	0.6	23.8
Benzaldehyde	n.d.	2
Ethylbenzene	0.2	1.8
Xilene (isomers)	0.4	0.7
Styrene	21.3	254.8
Propylbenzene	0.4	1.1
Etyl toluene (isomers)	0.2	0.5
a-methylstyrene	<LoQ	4.2

It should be noted that the concentration of substances formed by GPPS thermal degradation are very high due the extreme condition of the test. These conditions were adopted uniquely define the chemical species formed by degradation, in order to avoid that the concentrations of the substances are lower than the detection limit of the analysis. Under the operating conditions of the decontamination technology the degradation of rPS is much lower the values reported in Table 12.

The average decontamination efficiency is meaningless for the substances formed by degradation (highlighted with * in the Table 11) and for the substances usually used in the production of styrenic materials (highlighted with ** in the Table 11). In the latter case this is due to the differences in concentration of each single additive between the flakes.

Considering that the real decontamination efficiency of each single contaminant is comprised between the “Worst case” and “Best case” decontamination efficiency it can be stated that no discrepancies are observed between contaminants level expected.

In support of what has been reported, in the Table 13 below the migration level of each single substance at the maximum concentration (or worst case) found in analysed batches, is summarized:

Table 13: Summary of the migration level for each single substance

MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output maximum value [ppm]	Maximum migration for Cold filled Yogurt [ppb]	Maximum migration for Trays for meat, fish or cheese [ppb]	Maximum migration for Trays for food and vegetables [ppb]	Maximum migration for Cups for cold drinks [ppb]	Maximum migration for Cups for hot drinks [ppb]
212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	1.5	0.30	0.16	0.44	0.85	0.26
208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	1.25	0.25	0.13	0.38	0.72	0.22
157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		157	44.31	23.09	66.24	126.61	38.37
220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	1.21	0.23	0.12	0.34	0.65	0.20
196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	9.29	0.10	0.38	0.38	0.38	0.35
208	Non-Volatiles	Styrene Dimers	*Mixture*		208	7.21	8.41	8.41	8.41	7.32
240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	4	0.67	0.35	1.01	1.92	0.58
210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	66.8	13.40	6.99	20.06	38.24	11.61
210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		78.4	15.72	8.20	23.54	44.89	13.62
271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		25.2	3.56	1.86	5.33	10.16	3.08
174	Non-Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent	1	0.25	0.13	0.38	0.72	0.22
371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	6.86	0.58	0.30	0.87	1.66	0.50
312	Non-Volatiles	Styrene Trimers	*Mixture*		1897	8.54	1.80	1.80	1.80	6.23
391	Non-Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer	1	0.08	0.04	0.12	0.22	0.07
391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	10.9	0.84	0.44	1.26	2.41	0.73
402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	9.92	0.73	0.38	1.09	2.08	0.63
74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	0.2	0.11	0.06	0.16	0.31	0.09
74	Volatiles	Methyl methoxyacetate	6290-49-9		0.2	0.11	0.06	0.16	0.31	0.09
61	Volatiles	o-Ethylhydroxylamine	624-82-2		0.1	0.06	0.03	0.09	0.17	0.05
70	Volatiles	2-Pentene, (Z)-	627-20-3		0.1	0.06	0.03	0.08	0.16	0.05
72	Volatiles	Butanal	123-72-8	Flavour	0.1	0.06	0.03	0.08	0.16	0.05
60	Volatiles	Acetic acid	64-19-7	Degradation	0.2	0.12	0.06	0.19	0.35	0.11
120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	0.22	0.08	0.04	0.12	0.23	0.07
84	Volatiles	Cyclohexane	110-82-7	Polymerization product	0.34	0.17	0.09	0.25	0.48	0.15
86	Volatiles	Pentanal	110-62-3	Fragrances	0.2	0.10	0.05	0.15	0.28	0.08
92	Volatiles	Toluene	108-88-3	Polymerization product	1.37	0.63	0.33	0.95	1.80	0.55
100	Volatiles	Hexanal	66-25-1	Fragrances	0.45	0.19	0.10	0.29	0.55	0.17
222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	0.31	0.06	0.03	0.09	0.17	0.05
106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	17	6.99	3.66	10.51	19.95	6.05
106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	1.09	0.45	0.23	0.67	1.28	0.39
104	Volatiles	Styrene	100-42-5	Monomer	161	67.25	35.07	100.66	191.97	58.24
120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	1.82	0.67	0.35	1.00	1.91	0.58
106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	0.22	0.09	0.05	0.14	0.26	0.08
120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	5.02	1.85	0.96	2.77	5.28	1.60
120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	0.62	0.23	0.12	0.34	0.65	0.20
128	Volatiles	Octanal	124-13-0	Fragrances	0.1	0.03	0.02	0.05	0.10	0.03
170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	0.2	0.05	0.03	0.08	0.15	0.04
142	Volatiles	Decane	124-18-5	Mineral oil	0.1	0.03	0.02	0.05	0.09	0.03
130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	0.1	0.03	0.02	0.05	0.10	0.03
136	Volatiles	D-Limonene	5989-27-5	Post-consumer	0.2	0.07	0.03	0.10	0.19	0.06
120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	0.2	0.07	0.04	0.11	0.21	0.06
142	Volatiles	Nonanal	124-19-6	Fragrances	0.1	0.03	0.02	0.05	0.09	0.03
156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	0.1	0.03	0.01	0.04	0.08	0.02
60	Volatiles	Methyl formate	107-31-3		0.1	0.06	0.03	0.09	0.18	0.05
56	Volatiles	Acrolein	107-02-8		0.1	0.06	0.03	0.10	0.18	0.06
371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	0.2	0.02	0.01	0.03	0.05	0.01

The analysis allows to assert that migration of any substance stays well below levels of concern. This is evident by comparison of the values reported in Table 13 with the ones reported in the Table 10.

11) Discussion of the differences with previous published reports - Art. 13 (5j)

During the monitoring period addressed in this report, a comprehensive analysis of the GC-MS spectra was performed, facilitating a more precise identification of the substances present in the various batches of produced rPS. Specifically:

a) Dimethyl Adipate was amended and actually identified as Dioctyl Adipate

b) Dioctyl Phthalate was specifically identified as Dioctyl Terephthalate. In the market, the branched isomer bis(2-ethylhexyl) terephthalate is actually found and used as a plasticizer. GC-MS analysis cannot discriminate between the two isomers, therefore the molecule referred to as Dioctyl Terephthalate, but the CAS number reported in the report is that of the branched isomer bis(2-ethylhexyl) terephthalate (CAS: 6422-86-2).

c) The in-depth analysis also allowed for the identification of the compound Acetyltributylcitrate with a molecular weight of 402 g/mol, very close to that of Dioctyl Terephthalate (with a molecular weight of 391 g/mol).

d) The molecule identified with the empirical formula $C_{14}H_{14}N_2$ (Styrene Acrylonitrile Trimer An_2S) was grouped with the Styrene Acrylonitrile Trimers.

Therefore, from batch L4202500028 (produced on 02/05/2025), the analytical results have been updated with the new information.

In the Table 14 below, the average concentration values (both for input and output) of all identified substances in the rPS produced batches during the first and second monitoring periods are reported. It is important to note that the values have been considered in the worst-case scenario, meaning that when the contaminant concentration is lower than the LoQ (Limit of Quantification), the concentration is assumed to be equal to the LoQ, which is 1 ppm for non-volatile contaminants and 0.2 ppm for volatile contaminants. When the concentration is n.d. (not determinable), the concentration of each contaminant is assumed to be equal to 0.1 ppm (LoD, Limit of Detection).

Table 14. Average concentration (both for Input and Output) of the substance found in rPS produced Lots in the First and Second Monitoring period.

			First Data Monitoring Report		Second Data Monitoring Report	
Substance	**MW [g/mol]**	**CAS Number**	**Average Input Concentration [ppm]**	**Average Output Concentration [ppm]**	**Average Input Concentration [ppm]**	**Average Output Concentration [ppm]**
[2.2]Paracyclophane	208	1633-22-3	1.00	1.00	1.03	1.01
1,2,3-Trimethylbenzene	120	526-73-8	0.44	0.14	0.57	0.19
1,3-Dimethyl benzene	106	108-38-3	1.58	0.18	1.66	0.24
1,3-Diphenylpropane	196	1081-75-0	13.37	9.89	8.23	3.74
1-Methylethylbenzene	120	98-82-8	2.03	0.25	1.98	0.32
2,2,4,6,6-Pentamethylheptane	170	13475-82-6	1.73	0.11	1.53	0.11
2-Ethyl-1-hexanol	130	104-76-7	3.53	0.11	5.41	0.10
2-Methyl-2-Propanol	74	75-65-0	0.94	0.12	1.11	0.10
2-Pentene, (Z)-	70	627-20-3	0.38	0.11	0.41	0.10
Acetic acid	60	64-19-7	0.29	0.11	0.96	0.15
Acetophenone	120	98-86-2	1.17	0.13	1.52	0.13
Acrolein	56	107-02-8	6.12	0.13	7.97	0.10
Benzaldehyde	106	100-52-7	0.54	0.17	0.65	0.17
Butanal	72	123-72-8	0.27	0.12	0.34	0.10
Butylated Hydroxytoluene (BHT)	220	128-37-0	1.00	1.00	1.01	1.01
C14H14N2	210	*Brute formula*	16.53	11.44	23.88	26.81
Cyclohexane	84	110-82-7	2.23	0.13	1.36	0.12
Decamethylcyclopentasiloxane	371	541-02-6	1.07	0.17	1.27	0.16
Decane	142	124-18-5	0.49	0.11	0.82	0.10
Dimethoxydimethylsilane	120	1112-39-6	0.54	0.19	0.61	0.15
Dimethyl Adipate	174	627-93-0	29.90	7.92	1.00	1.00
Dioctyl Phthalate	391	117-81-7	25.13	14.60	48.89	3.71
Dioctyl Phthalate	371	103-23-1	n.a.	n.a.	1.00	1.00
Dioctyl Terephthalate	391	6422-86-2	n.a.	n.a.	43.49	4.66
Acetyltributylcitrate	402	77-90-7	n.a.	n.a.	79.49	2.60
D-Limonene	136	5989-27-5	2.67	0.12	6.88	0.14
Ethylbenzene	106	100-41-4	17.44	3.62	10.18	5.04
Heptadecane	240	629-78-7	17.13	8.28	1.27	1.29
Hexamethylcyclotrisiloxane	222	541-05-9	1.59	0.16	1.89	0.16
Hexanal	100	66-25-1	1.63	0.17	2.21	0.14
Methyl formate	60	107-31-3	7.55	0.11	13.04	0.10
Methyl methoxyacetate	74	6290-49-9	0.70	0.12	0.49	0.12
Nonanal	142	124-19-6	0.43	0.11	0.59	0.10
Octanal	128	124-13-0	0.30	0.10	0.37	0.10
o-Ethylhydroxylamine	61	624-86-2	0.67	0.10	1.15	0.10
Pentadecane	212	629-62-9	46.87	37.28	6.94	1.03
Pentanal	86	110-62-3	0.57	0.13	0.84	0.12
Propylbenzene	120	103-65-1	2.35	0.33	2.40	0.64
Styrene	104	100-42-5	145.79	70.05	108.31	63.41
Styrene Acrylonitrile Trimer (An2S)	210	*Oligomer*	35.33	8.93	46.37	22.54
Styrene Acrylonitrile Trimer (AnS2)	271	*Oligomer*	37.66	16.90	13.99	7.75
Styrene Dimers	208	*Mixture*	274.95	89.14	307.43	113.31
Styrene Trimers	312	*Mixture*	2085.35	1346.60	1505.91	1259.99
Styrene-Acrylonitrile Dimers	157	*Mixture*	4.53	1.35	1.58	3.46
Toluene	92	108-88-3	1.87	0.55	2.79	0.73
Undecane	156	1120-21-4	0.65	0.10	0.74	0.10

From the results reported in Table 14, it can be observed that the average concentrations of the substances (both for input and output) are absolutely comparable. Therefore, no significant variations are observed.

Annex 1 – Analytical results on each single produced batches

In the Table A1 below the results of the analyses on decontaminated batches are reported. In particular, every single batch has been analyzed in order to determinate the concentration of substances with a molecular weight below 1000 Dalton present in input and output.

Table A1: List of substances in the produced batches

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
REFENCE PS AIR	04/12/2024	L4202400354	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	1.03
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	1.07
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	7.33	4.82
			208	Non-Volatiles	Styrene Dimers	*Mixture*		189.3	230.5
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	3.76	3.2
			210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	20.2	36.7
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		5.67	9.84
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		3.36	3.88
			174	Non-Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent	<1	<1
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1013.7	859.3
			391	Non-Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer	<1	<1
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	<LoQ
			74	Volatiles	Methyl methoxyacetate	6290-49-9		<LoQ	<LoQ
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	0.36
			72	Volatiles	Butanal	123-72-8	Flavour	n.d.	<LoQ
			60	Volatiles	Acetic acid	64-19-7	Degradation	<LoQ	<LoQ
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ	<LoQ
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	<LoQ	0.44
			86	Volatiles	Pentanal	110-62-3	Fragrances	<LoQ	<LoQ
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.63	1.34
			100	Volatiles	Hexanal	66-25-1	Fragrances	0.39	0.39
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ	0.54
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	17	35
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	<LoQ	0.95
			104	Volatiles	Styrene	100-42-5	Monomer	19	159
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.24	1.64
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ	0.36
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.51	2.54
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	<LoQ	0.43
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	0.2
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	<LoQ
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	<LoQ
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ	<LoQ
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	<LoQ	<LoQ
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	<LoQ
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ	<LoQ

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
REFENCE PS AIR	06/12/2024	L4202400355	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	9.29	6.27
			208	Non-Volatiles	Styrene Dimers	*Mixture*		175.8	219.5
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	3.62	<1
			210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	31.6	20.02
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		8.33	5.64
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		4.4	2.32
			174	Non-Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent	<1	<1
			312	Non-Volatiles	Styrene Trimers	*Mixture*		790	912.1
			391	Non-Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer	<1	<1
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	<LoQ
			74	Volatiles	Methyl methoxyacetate	6290-49-9		<LoQ	<LoQ
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	<LoQ
			72	Volatiles	Butanal	123-72-8	Flavour	n.d.	<LoQ
			60	Volatiles	Acetic acid	64-19-7	Degradation	<LoQ	<LoQ
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.	<LoQ
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	0.51
			86	Volatiles	Pentanal	110-62-3	Fragrances	<LoQ	<LoQ
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.91	2.56
			100	Volatiles	Hexanal	66-25-1	Fragrances	0.45	0.44
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ	0.25
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	14	19
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	0.98	0.7
			104	Volatiles	Styrene	100-42-5	Monomer	85	225
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.23	0.92
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ	0.24
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.47	1.25
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	<LoQ	<LoQ
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	<LoQ
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	<LoQ
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	<LoQ
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ	<LoQ
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	<LoQ	<LoQ
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	<LoQ
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ	<LoQ

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
REFENCE PS AIR	06/12/2024	L4202400356	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	1.13
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	1.38
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	1	1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	6.13	4.19
			208	Non-Volatiles	Styrene Dimers	*Mixture*		157.6	197.5
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	4	1.13
			210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	11.4	36.3
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		3.34	8.52
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		1.72	3.97
			174	Non-Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent	<1	<1
			312	Non-Volatiles	Styrene Trimers	*Mixture*		858	853.7
			391	Non-Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer	<1	<1
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	<LoQ
			74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.	<LoQ
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	<LoQ
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	<LoQ
			72	Volatiles	Butanal	123-72-8	Flavour	n.d.	<LoQ
			60	Volatiles	Acetic acid	64-19-7	Degradation	<LoQ	0.4
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.	<LoQ
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	0.29
			86	Volatiles	Pentanal	110-62-3	Fragrances	<LoQ	<LoQ
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.61	1.32
			100	Volatiles	Hexanal	66-25-1	Fragrances	0.24	0.44
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ	0.53
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	5	13
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	<LoQ	0.77
			104	Volatiles	Styrene	100-42-5	Monomer	68	145
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	<LoQ	1.18
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ	0.4
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.28	1.53
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	<LoQ	0.27
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	<LoQ
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	<LoQ
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	<LoQ
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.	0.21
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	<LoQ	0.22
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	<LoQ
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ	0.21

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
REFENCE AIR PS	09/12/2024	L4202400357	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	1.47
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	1.25	1.36
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	1.21	1.26
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	6.37	5.27
			208	Non-Volatiles	Styrene Dimers	*Mixture*		149.4	226.6
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	1.71
			210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	66.8	38.4
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		16.87	10.3
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		7.76	4.64
			174	Non-Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent	<1	<1
			312	Non-Volatiles	Styrene Trimers	*Mixture*		731.4	983
			391	Non-Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer	<1	<1
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	<LoQ
			74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.	<LoQ
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	<LoQ
			72	Volatiles	Butanal	123-72-8	Flavour	n.d.	<LoQ
			60	Volatiles	Acetic acid	64-19-7	Degradation	n.d.	<LoQ
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ	<LoQ
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	0.28
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.63	1.17
			100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.	<LoQ
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ	0.42
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	12	12
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	<LoQ	0.67
			104	Volatiles	Styrene	100-42-5	Monomer	153	66
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.21	1.09
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ	0.34
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.32	1.44
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	<LoQ	0.25
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	<LoQ
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	<LoQ
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	<LoQ
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ	0.2
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	<LoQ	0.2
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	<LoQ
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ	0.21

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
REFENCE PS AIR	11/12/2024	L4202400370	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	41.8
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	5.59
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	6.32	18.4
			208	Non-Volatiles	Styrene Dimers	*Mixture*		140.4	361.7
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	5.41
			210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	30.8	5.42
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		7.7	232.4
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		3.76	5.93
			174	Non-Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent	<1	<1
			312	Non-Volatiles	Styrene Trimers	*Mixture*		804.6	2159
			391	Non-Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer	<1	<1
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	1.22
			74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.	0.82
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	1.18
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	1.01
			72	Volatiles	Butanal	123-72-8	Flavour	n.d.	0.32
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ	0.89
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	2.33
			86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.	1.02
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.64	1.94
			100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.	2.84
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ	2.64
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	10	38
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	<LoQ	1.85
			104	Volatiles	Styrene	100-42-5	Monomer	69	231
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	<LoQ	2.12
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ	0.79
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.24	2.55
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	<LoQ	0.64
			128	Volatiles	Octanal	124-13-0	Fragrances	n.d.	<LoQ
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	1.95
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	0.69
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	6.11
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ	3.56
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	<LoQ	2.1
			142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.	0.53
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	0.68
			60	Volatiles	Methyl formate	107-31-3		n.d.	23.2
			56	Volatiles	Acrolein	107-02-8		n.d.	15.6
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ	1.16

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
REFENCE PS AIR	11/12/2024	L4202400371	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	64.2
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	7.21
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	6.72	19
			208	Non-Volatiles	Styrene Dimers	*Mixture*		155.02	459.6
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	1.41
			210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	15.01	14.6
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		4.43	123.3
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		2.1	20.8
			174	Non-Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent	<1	<1
			312	Non-Volatiles	Styrene Trimers	*Mixture*		737.7	2861
			391	Non-Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer	<1	<1
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	1.07
			74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.	0.59
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	0.58
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	0.37
			72	Volatiles	Butanal	123-72-8	Flavour	n.d.	0.34
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ	1.04
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	<LoQ	3.77
			86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.	1.48
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.65	2.47
			100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.	5.29
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ	5.69
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	5	14
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	<LoQ	3.19
			104	Volatiles	Styrene	100-42-5	Monomer	59	59
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.2	3.55
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ	0.92
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.25	3.86
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	<LoQ	0.97
			128	Volatiles	Octanal	124-13-0	Fragrances	n.d.	<LoQ
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	3.83
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	1
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	5.42
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ	5.86
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	<LoQ	2.19
			142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.	0.34
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	1.07
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ	2.29

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
REFENCE PS AIR	12/12/2024	L4202400372	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	29.6
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	3.08
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	5.49	8.59
			208	Non-Volatiles	Styrene Dimers	*Mixture*		110.6	206.4
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	19.3	22.6
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		7.04	113.5
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		11.6	71.4
			174	Non-Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent	<1	<1
			312	Non-Volatiles	Styrene Trimers	*Mixture*		705.2	1640
			391	Non-Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer	<1	<1
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	<LoQ	1.46
			74	Volatiles	Methyl methoxyacetate	6290-49-9		<LoQ	0.6
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	0.89
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	0.34
			72	Volatiles	Butanal	123-72-8	Flavour	n.d.	0.33
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ	1.12
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	<LoQ	1.69
			86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.	1.25
			92	Volatiles	Toluene	108-88-3	Polymerization product	1.11	1.87
			100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.	3.72
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ	3.44
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	8	13
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	<LoQ	2
			104	Volatiles	Styrene	100-42-5	Monomer	86	86
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.32	2.55
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ	0.85
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.49	2.49
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	<LoQ	0.74
			128	Volatiles	Octanal	124-13-0	Fragrances	n.d.	0.21
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	2.02
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	0.71
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	5.67
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ	4.67
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	1.95
			142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.	0.56
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	0.69
			60	Volatiles	Methyl formate	107-31-3		n.d.	21.5
			56	Volatiles	Acrolein	107-02-8		n.d.	13.4
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ	1.57

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
REFENCE PS AIR	13/12/2024	L4202400373	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	38.4
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	4.88
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	6.25	12.8
			208	Non-Volatiles	Styrene Dimers	*Mixture*		87.3	273.2
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	C14H14N2	*Brute formula*	Styrene Acrylonitrile Trimer (An2S)	19.4	17
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		7.15	72.1
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		11.3	21.2
			174	Non-Volatiles	Dimethyl Adipate	627-93-0	Additive: Ink solvent	<1	<1
			312	Non-Volatiles	Styrene Trimers	*Mixture*		608.3	1663
			391	Non-Volatiles	Dioctyl Phthalate	117-81-7	Additive: Plasticizer	<1	<1
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	1.77
			74	Volatiles	Methyl methoxyacetate	6290-49-9		<LoQ	0.74
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	1.03
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	0.37
			72	Volatiles	Butanal	123-72-8	Flavour	n.d.	0.4
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ	1.27
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	2.28
			86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.	1.58
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.83	6.34
			100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.	6.4
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ	3.71
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	5	11
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	<LoQ	3.57
			104	Volatiles	Styrene	100-42-5	Monomer	72	72
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	<LoQ	3.62
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ	1.08
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.26	4.07
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	<LoQ	1
			128	Volatiles	Octanal	124-13-0	Fragrances	n.d.	0.28
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	1.94
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	0.96
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	5.6
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ	122.3
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	<LoQ	2.18
			142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.	0.65
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	0.98
			60	Volatiles	Methyl formate	107-31-3		n.d.	25.6
			56	Volatiles	Acrolein	107-02-8		n.d.	2.27
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ	

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	05/02/2025	L4202500028	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	1.68
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		72.2	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	<1	11.82
			208	Non-Volatiles	Styrene Dimers	*Mixture*		66.2	147.9
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		23.2	28.7
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		3.16	<1
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	6.86	2.27
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1430	1433
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	10.9	3.23
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	2.45	9.62
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	<LoQ
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	0.47
			92	Volatiles	Toluene	108-88-3	Polymerization product	1.37	2.4
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ	0.37
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	2	<LoQ
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.	0.91
			104	Volatiles	Styrene	100-42-5	Monomer	60	136
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.48	1.29
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.	0.4
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	<LoQ	1.89
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.	<LoQ
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	<LoQ
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.	0.29
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	0.23

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	06/02/2025	L4202500029	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	1.5	1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	<1	9.29
			208	Non-Volatiles	Styrene Dimers	*Mixture*		78.8	132.3
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		22.6	27.8
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		<1	1.47
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	3.84	3.99
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1596	1490
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	5	3.72
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	1.68	13.1
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	0.44
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.71	2.45
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.	0.35
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	1	7
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.	0.85
			104	Volatiles	Styrene	100-42-5	Monomer	45	161
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.	1.15
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.	0.36
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	<LoQ	1.77
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.	1.77
			128	Volatiles	Octanal	124-13-0	Fragrances	n.d.	0.27
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	0.24
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.	0.25
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	0.2

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	07/02/2025	L4202500030	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	<1	5.61
			208	Non-Volatiles	Styrene Dimers	*Mixture*		73.1	78.4
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		30.7	24.3
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		<1	4.56
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	2.89	2.65
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1604	548.4
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	2.5	4.42
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	5.6	2.65
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	0.45
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.49	2.91
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.	0.41
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	3	11
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.	0.56
			104	Volatiles	Styrene	100-42-5	Monomer	56	174
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.	1.26
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.	0.34
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	<LoQ	1.95
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.	0.2
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	0.26
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.	0.28

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	10/02/2025	L4202500031	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	1.4	1.21
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	<1	10.5
			208	Non-Volatiles	Styrene Dimers	*Mixture*		77.7	124.11
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		17.4	5.4
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		<1	<1
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	2.94	4.36
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1897	1132
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	4.4	12
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	9.92	10.8
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	<LoQ
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	0.24
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	0.4
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.43	1.2
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.	0.24
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	13	2
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.	0.46
			104	Volatiles	Styrene	100-42-5	Monomer	161	43
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.	0.8
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.	0.4
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	n.d.	1.04
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.	<LoQ
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	0.46

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	10/02/2025	L4202500032	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	1	1.88
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	<1	9.89
			208	Non-Volatiles	Styrene Dimers	*Mixture*		78.4	141.4
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		20.7	8.32
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		<1	<1
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	4.12	3.67
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1750	1373
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	4.32	5.55
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	1.53	7.54
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	0.41
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	0.47
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.56	1.45
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	2	12
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.	0.64
			104	Volatiles	Styrene	100-42-5	Monomer	45	162
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.	1
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.	0.31
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	n.d.	1.36
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.	0.2
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	<LoQ
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.	<LoQ
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	<LoQ

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	11/02/2025	L4202500033	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	<1	11
			208	Non-Volatiles	Styrene Dimers	*Mixture*		77.7	146.4
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		31.5	24.4
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		<1	2.22
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	3.84	3.89
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1684	1351
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	4.01	1.8
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	7.16	8.81
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	<LoQ
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.45	0.98
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	1	11
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.	0.4
			104	Volatiles	Styrene	100-42-5	Monomer	42	188
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.	0.95
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.	0.23
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	n.d.	2.02
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.	0.3
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.	<LoQ

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	11/02/2025	L4202500034	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	2.9	2.4
			208	Non-Volatiles	Styrene Dimers	*Mixture*		65	114
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		10.7	13
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		3.87	5.9
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	1.74	1.4
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1130	102
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	3.54	2
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	<1	1.7
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	0.2
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ	n.d.
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	0.31
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.69	2.11
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.	0.27
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	4	14
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.	0.75
			104	Volatiles	Styrene	100-42-5	Monomer	56	184
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	<LoQ	1.17
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ	0.35
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	<LoQ	1.78
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.	0.21
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	0.24
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.	<LoQ

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	13/02/2025	L4202500035	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	2.7	3.1
			208	Non-Volatiles	Styrene Dimers	*Mixture*		57.3	124
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		7	20.2
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		2.26	5.51
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	1.67	1.91
			312	Non-Volatiles	Styrene Trimers	*Mixture*		779.7	817
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	2.1	1.81
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	<1	1.62
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	0.2	n.d.
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	0.34	0.34
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.82	2.29
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.	<LoQ
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	3	10
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.	0.74
			104	Volatiles	Styrene	100-42-5	Monomer	71	230
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	<LoQ	0.99
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ	0.34
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.2	1.5
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.	0.25
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	0.2
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.	0.2

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	14/02/2025	L4202500036	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	4.22	7.2
			208	Non-Volatiles	Styrene Dimers	*Mixture*		95.7	410
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		39.7	40
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		12.7	18
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	4.73	155.1
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1140	1755
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	3.43	214
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	1.74	104
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	1.45
			74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.	0.5
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	1.51
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	0.5
			60	Volatiles	Acetic acid	64-19-7	Degradation	n.d.	2.25
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	0.22	0.53
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	1.32
			86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.	0.83
			92	Volatiles	Toluene	108-88-3	Polymerization product	1.11	6.84
			100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.	2.07
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.	2.94
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	4	6
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.	2.08
			104	Volatiles	Styrene	100-42-5	Monomer	62	59
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.	3.01
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.	0.98
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.29	2.96
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.	0.63
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	3.91
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	1.12
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	7.17
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.	5.04
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	3.31
			142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.	0.7
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	1.08
			60	Volatiles	Methyl formate	107-31-3		n.d.	11
			56	Volatiles	Acrolein	107-02-8		n.d.	9.8
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	n.d.	1.1

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	17/02/2025	L4202500037	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	2.76	7.2
			208	Non-Volatiles	Styrene Dimers	*Mixture*		70.3	371
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		21.1	3.58
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		7.28	1.42
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	2.51	54
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1076	1595
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	3.43	30
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	1.13	93.6
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	1.28
			74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.	0.46
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	1.59
			60	Volatiles	Acetic acid	64-19-7	Degradation	n.d.	2.48
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ	0.65
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	0.77
			86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.	0.58
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.8	2.03
			100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.	1.45
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.	2.03
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	1	8
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.	1.83
			104	Volatiles	Styrene	100-42-5	Monomer	51	67
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.	1.91
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.	0.82
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	n.d.	2.42
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	2.38
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	0.82
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	7.32
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.	4.68
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	2.67
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	0.89
			60	Volatiles	Methyl formate	107-31-3		n.d.	9.3
			56	Volatiles	Acrolein	107-02-8		n.d.	8.8
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	n.d.	1.45

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	17/02/2025	L4202500038	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	3.23	6.7
			208	Non-Volatiles	Styrene Dimers	*Mixture*		92	369.2
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		28.5	55.5
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		9.78	17.5
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	4.5	160
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1478	1423
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	5.15	126
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	1.91	314
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	1.08
			74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.	0.44
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	0.95
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	<LoQ	n.d.
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	2.04
			86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.	0.58
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.77	4.41
			100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.	1.33
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.	1.81
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	5	6
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.	2.29
			104	Volatiles	Styrene	100-42-5	Monomer	57	78
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.	2.4
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.	0.85
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	n.d.	2.64
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.	0.57
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	2.04
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	0.92
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	6.28
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.	4.95
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	2.19
			142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.	0.5
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	0.93
			60	Volatiles	Methyl formate	107-31-3		n.d.	9.5
			56	Volatiles	Acrolein	107-02-8		n.d.	8.9
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	n.d.	0.95

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	24/02/2025	L4202500039	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	3.1	7.77
			208	Non-Volatiles	Styrene Dimers	*Mixture*		78.2	422
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		10	10.8
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		4.65	1.8
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	3.35	56
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1259	1703
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	5.43	13.2
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	1.26	124.2
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	1.33
			74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.	0.44
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	0.61
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	0.2	0.66
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	2.46
			86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.	0.57
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.65	1.91
			100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.	1.44
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.	1.84
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	<LoQ	5
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.	1.87
			104	Volatiles	Styrene	100-42-5	Monomer	53	66
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.	2.08
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	n.d.	0.66
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	n.d.	2.64
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.	0.64
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	1.37
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	0.86
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	6.08
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.	4.2
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	1.39
			142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.	0.57
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	0.75
			60	Volatiles	Methyl formate	107-31-3		n.d.	9.9
			56	Volatiles	Acrolein	107-02-8		n.d.	11.2
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	n.d.	1.24

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	27/02/2025	L4202500040	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	4.72	6.86
			208	Non-Volatiles	Styrene Dimers	*Mixture*		126	497.2
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		43.8	13.3
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		16.2	6.85
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	6.16	40.4
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1447	1989
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	5.78	68.5
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	2.75	90.4
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	1.02
			74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.	0.37
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	0.66
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	0.3
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.	0.57
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	1.96
			86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.	0.59
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.67	2.3
			100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.	1.61
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.	3.12
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	4	13
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.	1.93
			104	Volatiles	Styrene	100-42-5	Monomer	55	54
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.	2.4
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ	0.79
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.2	2.9
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.	0.68
			128	Volatiles	Octanal	124-13-0	Fragrances	n.d.	0.54
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	1.93
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	1.2
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	5.32
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.	4.38
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	1.71
			142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.	0.69
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	0.79
			60	Volatiles	Methyl formate	107-31-3		n.d.	9.1
			56	Volatiles	Acrolein	107-02-8		n.d.	7.8
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	n.d.	1.34

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	28/02/2025	L4202500041	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	4.18	9.16
			208	Non-Volatiles	Styrene Dimers	*Mixture*		93.3	472.6
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		43.6	15.8
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		16.5	14
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	5.54	54.8
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1683	1784
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	6.41	28.7
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	2.14	100
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	1.3
			74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.	0.72
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	0.48
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	0.82
			72	Volatiles	Butanal	123-72-8	Flavour	n.d.	0.35
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.	1.01
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	1.82
			86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.	0.82
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.8	2.37
			100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.	1.93
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.	3.32
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	3	4
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.	2.09
			104	Volatiles	Styrene	100-42-5	Monomer	46	68
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.	2.87
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ	0.75
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	n.d.	2.96
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.	0.67
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	2.24
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	1.03
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	4.39
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.	4.2
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	1.47
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	0.68
			60	Volatiles	Methyl formate	107-31-3		n.d.	17.8
			56	Volatiles	Acrolein	107-02-8		n.d.	11.7
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	n.d.	1.02

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	03/03/2025	L4202500042	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	3.68	9.66
			208	Non-Volatiles	Styrene Dimers	*Mixture*		108	504
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		78.4	10.5
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		25.2	14
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	5.4	102
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1523	1862
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	6	78.5
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	2.81	202
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	1.48
			74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.	0.53
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	0.9
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	0.66
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.	0.93
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	1.82
			86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.	0.66
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.71	2.61
			100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.	1.68
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.	1.89
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	3	5
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.	1.82
			104	Volatiles	Styrene	100-42-5	Monomer	42	69
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.	2.43
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ	0.85
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	n.d.	2.79
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.	0.51
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	1.62
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	1.07
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	6.36
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	n.d.	4.04
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	2.26
			142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.	0.46
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	0.68
			60	Volatiles	Methyl formate	107-31-3		n.d.	13.4
			56	Volatiles	Acrolein	107-02-8		n.d.	9.3
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	n.d.	3.23

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	03/03/2025	L4202500043	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	4	7.42
			208	Non-Volatiles	Styrene Dimers	*Mixture*		113	410
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		40	182
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		15	57.5
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	5.83	40.5
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1693	1816
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	7.57	34
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	3.02	89.2
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	2.68
			74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.	0.31
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	0.41
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.	0.53
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	1.23
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.6	1.95
			100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.	1.08
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	n.d.	1.84
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	2	2
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	n.d.	3.82
			104	Volatiles	Styrene	100-42-5	Monomer	40	59
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	n.d.	3.36
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ	0.88
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	<LoQ	2.58
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	0.43	0.43
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	0.83
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	0.56
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	7.23
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ	3.47
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	2.25
			142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.	0.51
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	0.59
			60	Volatiles	Methyl formate	107-31-3		n.d.	6.9
			56	Volatiles	Acrolein	107-02-8		n.d.	5.5
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	n.d.	0.99

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	17/03/2025	L4202500044	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	2.81	8.62
			208	Non-Volatiles	Styrene Dimers	*Mixture*		135	532
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		20	47.7
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		14.6	21.3
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	3.84	104
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1504	2163
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	4.81	41.6
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	1.97	48.5
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	0.95
			74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.	0.78
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	0.55
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	0.69
			72	Volatiles	Butanal	123-72-8	Flavour	n.d.	0.62
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.	0.59
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	1.28
			86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.	0.44
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.73	1.56
			100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.	1.09
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	0.21	1.62
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	1	4
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	0.23	1.49
			104	Volatiles	Styrene	100-42-5	Monomer	36	51
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.49	1.7
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	0.22	0.3
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.63	2.03
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	<LoQ	0.44
			128	Volatiles	Octanal	124-13-0	Fragrances	n.d.	0.31
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	<LoQ	1.81
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	0.73
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	5.62
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ	3.09
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	1.04
			142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.	0.41
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	0.68
			60	Volatiles	Methyl formate	107-31-3		n.d.	13.8
			56	Volatiles	Acrolein	107-02-8		n.d.	6.32
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ	1.37

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE AIR	17/03/2025	L4202500045	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	2.58	7.15
			208	Non-Volatiles	Styrene Dimers	*Mixture*		147	452
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		25.6	36.3
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		13.7	15.7
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	3.75	90
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1531	1878
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	3.68	13.6
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	2.16	238.6
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	1.53
			74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.	0.49
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	2.36
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	0.47
			72	Volatiles	Butanal	123-72-8	Flavour	n.d.	0.36
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.	0.94
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	1.53
			86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.	1.25
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.22	2.3
			100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.	3.38
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	0.2	2.96
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	2	6
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	0.2	2.33
			104	Volatiles	Styrene	100-42-5	Monomer	39	70
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	0.42	2.24
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ	1
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	0.51	2.73
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	n.d.	0.72
			128	Volatiles	Octanal	124-13-0	Fragrances	n.d.	0.5
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	<LoQ	2.16
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	1.18
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	8.03
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ	6.4
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	2.29
			142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.	0.76
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	1.09
			60	Volatiles	Methyl formate	107-31-3		n.d.	9.34
			56	Volatiles	Acrolein	107-02-8		n.d.	4.56
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ	1.76

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE LAND	18/03/2025	L4202500056	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	3.2	6.23
			208	Non-Volatiles	Styrene Dimers	*Mixture*		208	437
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		44.4	92.1
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		11.6	32
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	1.36	55
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1630	1971
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	3.08	70.6
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	<1	105
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	1
			74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.	0.51
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	2
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	0.38
			72	Volatiles	Butanal	123-72-8	Flavour	n.d.	0.37
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.	0.75
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	1.02
			86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.	1.24
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.87	2.29
			100	Volatiles	Hexanal	66-25-1	Fragrances	<LoQ	3
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	0.31	1.66
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	8	6
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	1.09	1.97
			104	Volatiles	Styrene	100-42-5	Monomer	79	71
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	1.82	2.18
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ	0.88
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	5.02	3.05
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	0.62	0.68
			128	Volatiles	Octanal	124-13-0	Fragrances	n.d.	0.45
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	1.67
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	0.85
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	6.59
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ	4.06
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	2.03
			142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.	0.59
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	0.76
			60	Volatiles	Methyl formate	107-31-3		n.d.	7.18
			56	Volatiles	Acrolein	107-02-8		n.d.	2.94
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ	1.08

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE LAND	19/03/2025	L4202500057	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	2.2	5.62
			208	Non-Volatiles	Styrene Dimers	*Mixture*		139	416
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		10.4	66
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		1.12	23.8
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	1.12	22.2
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1184	1719
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	2.62	35
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	<1	35
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	1.74
			74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.	0.69
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	3.58
			72	Volatiles	Butanal	123-72-8	Flavour	n.d.	0.42
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.	0.91
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	2.01
			86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.	1.42
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.84	3.24
			100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.	3.68
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	<LoQ	4.05
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	5	5
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	0.95	3.41
			104	Volatiles	Styrene	100-42-5	Monomer	70	56
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	1.48	2.9
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	<LoQ	1.39
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	3.89	3.76
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	0.5	0.93
			128	Volatiles	Octanal	124-13-0	Fragrances	n.d.	0.6
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	2.4
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	1.69
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	12.5
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ	7.03
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	2.85
			142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.	0.81
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	1.45
			60	Volatiles	Methyl formate	107-31-3		n.d.	12.8
			56	Volatiles	Acrolein	107-02-8		n.d.	5.8
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ	2.16

Product	Production Date	Lot number	MW [g/mol]	Substance Type	Substance	CAS Number	Origin	Output [ppm]	Input [ppm]
PS REFENCE LAND	20/03/2025	L4202500058	212	Non-Volatiles	Pentadecane	629-62-9	Additive: Mineral oil	<1	<1
			208	Non-Volatiles	[2.2]Paracyclophane	1633-22-3	Styrene Dimer	<1	<1
			157	Non-Volatiles	Styrene-Acrylonitrile Dimers	*Mixture*		<1	<1
			220	Non-Volatiles	Butylated Hydroxytoluene (BHT)	128-37-0	Food additive (E321)	<1	<1
			196	Non-Volatiles	1,3-Diphenylpropane	1081-75-0	Styrene Dimer	2.19	6.11
			208	Non-Volatiles	Styrene Dimers	*Mixture*		141	439
			240	Non-Volatiles	Heptadecane	629-78-7	Additive: mineral oil	<1	<1
			210	Non-Volatiles	Styrene Acrylonitrile Trimer (An2S)	*Oligomer*		23.7	43.3
			271	Non-Volatiles	Styrene Acrylonitrile Trimer (AnS2)	*Oligomer*		16.2	25
			371	Non-Volatiles	Dioctyl Adipate	103-23-1	Additive: Plasticizer	1.92	68.5
			312	Non-Volatiles	Styrene Trimers	*Mixture*		1272	1836
			391	Non-Volatiles	Dioctyl Terephthalate	6422-86-2	Additive: Plasticizer	3.73	125
			402	Non-Volatiles	Acetyltributylcitrate	77-90-7	Additive: Plasticizer	1.45	69
			74	Volatiles	2-Methyl-2-Propanol	75-65-0	Washing & cleaning products	n.d.	1.09
			74	Volatiles	Methyl methoxyacetate	6290-49-9		n.d.	0.48
			61	Volatiles	o-Ethylhydroxylamine	624-82-2		n.d.	1.22
			70	Volatiles	2-Pentene, (Z)-	627-20-3		n.d.	0.37
			72	Volatiles	Butanal	123-72-8	Flavour	n.d.	0.41
			120	Volatiles	Dimethoxydimethylsilane	1112-39-6	Additive: silicone oil	n.d.	0.86
			84	Volatiles	Cyclohexane	110-82-7	Polymerization product	n.d.	5.43
			86	Volatiles	Pentanal	110-62-3	Fragrances	n.d.	1.09
			92	Volatiles	Toluene	108-88-3	Polymerization product	0.96	12.4
			100	Volatiles	Hexanal	66-25-1	Fragrances	n.d.	2.93
			222	Volatiles	Hexamethylcyclotrisiloxane	541-05-9	Additive: silicone oil	0.26	2.85
			106	Volatiles	Ethylbenzene	100-41-4	Polymerisation product	3	3
			106	Volatiles	1,3-Dimethyl benzene	108-38-3	Feedstock contaminant	0.64	2.29
			104	Volatiles	Styrene	100-42-5	Monomer	62	52
			120	Volatiles	1-Methylethylbenzene	98-82-8	Polymerisation product	1.2	2.7
			106	Volatiles	Benzaldehyde	100-52-7	Degradation/Oxidation	0.2	0.98
			120	Volatiles	Propylbenzene	103-65-1	Polymerisation product	3.1	3.1
			120	Volatiles	1,2,3-Trimethylbenzene	526-73-8	Polymerisation product	0.35	0.79
			128	Volatiles	Octanal	124-13-0	Fragrances	n.d.	0.48
			170	Volatiles	2,2,4,6,6-Pentamethylheptane	13475-82-6	Additive: Mineral oil	n.d.	5.15
			142	Volatiles	Decane	124-18-5	Mineral oil	n.d.	1.08
			130	Volatiles	2-Ethyl-1-hexanol	104-76-7	Degradation/Plasticizer	n.d.	7.11
			136	Volatiles	D-Limonene	5989-27-5	Post-consumer	<LoQ	5.09
			120	Volatiles	Acetophenone	98-86-2	Degradation/Oxidation	n.d.	2.09
			142	Volatiles	Nonanal	124-19-6	Fragrances	n.d.	0.7
			156	Volatiles	Undecane	1120-21-4	Additive: Mineral oil	n.d.	0.98
			60	Volatiles	Methyl formate	107-31-3		n.d.	8.24
			56	Volatiles	Acrolein	107-02-8		n.d.	3.69
			371	Volatiles	Decamethylcyclopentasiloxane	541-02-6	Additive: silicone oil	<LoQ	1.77

Annex 2 – Typical production certificate of decontaminated PS (rPS)

	GENERAL SUMMARY FOR DECONTAMINATED MATERIALS	MD079 Rev.00 LUGLIO 2024
BATCH NUMBER	L4-2024-00373	
FOREVER PLAST MATERIAL NAME	REFENCE PS AIR SER.FOREVER	
VERSALIS MATERIAL NAME	REFENCE PS AIR_SERIES FOREVER	
STARTING PRODUCTION DATE	13/12/2024	
ENDING PRODUCTION DATE	14/12/2024	
DATE OF ISSUE	13/12/2024	
CHECK CRITICAL PARAMETERS (DECONTAMINATION VESSEL STEP; AVERAGE VALUES)		
CRITICAL PARAMETERS	VALUES FOUND	LIMITS
RESIDENCE TIME INTO DECONTAMINATION UNIT	14	15 - 30 minutes Min.10'
MELT TEMPERATURE	242	240°C - 270°C Min 230°C
DECONTAMINATION VESSEL PRESSURE	3	1 - 5 Torr Max.10 Torr
CHECK WASHING PARAMETERS (WASHING STEP ON FLAKES; AVERAGE VALUES)		
PARAMETERS	VALUES FOUND	LIMITS
WATER ENTERING TEMPERATURE IN THE WASHING TANK	DAY1: 58,4 - DAY2: 58,2	>50°C
WATER ENTERING DENSITY IN THE WASHING TANK	DAY1: <1,01 - DAY2: <1,01	<1,020 g/cm^3
INFORMATION MATERIALS USED (EXTRUSION STEP)		
PLACE	MATERIAL	BATCH
DOSER 1 FLAKE/GRANULE 1		
DOSER 1 FLAKE/GRANULE 2		
DOSER 1 FLAKE/GRANULE 3		
DOSER 2 FLAKE/GRANULE 1	PS BOOSTER EDISTIR	PS-2024-00286
DOSER 2 FLAKE/GRANULE 2		
DOSER 2 FLAKE/GRANULE 3		
DOSER 3 FLAKE/GRANULE 1	PS MACINATO DA BALLE EUROPA	PSMI-2024-12-0001
DOSER 3 FLAKE/GRANULE 2		
DOSER 3 FLAKE/GRANULE 3		
INFORMATION MATERIALS USED (EXTRUSION STEP)		
PS BOOSTER	VIRGIN MATERIAL	
	% USE: 25	
PS MACINATO DA BALLE EUROPA	FLAKES RECYCLATED MATERIAL ACCORDING ISO 10667-10	
	% USE: 75	
DATA FROM FLAKES (ACCORDING POINT 4 VERSALIS PETITION)		
PARAMETERS	VALUES FOUND	LIMITS
MOISTURE (Note 2)	<1,00	<1%
TOTAL QUOTE OF POLYOLEFINS (Note 1)	0,27	<1%
POLYAMIDE CONTENT (Note 1)	0,00	<0,5%
PRESENCE OF WOOD, PAPER, CELLULOSE	0,00	<0,5%

WASTE INFORMATION (ACCORDING TABLE 1 EN 15343)		
ORIGINS	Material type/form	PS / varius
	Product type	Trays, cups, yogurt pot
	Type of waste	Post user
	Supplier identification	See table "INFORMATION ON THE FORMS USED"
	Date (delivered in Forever Plast)	See table "INFORMATION ON THE FORMS USED"
	History of waste	No contatct with hazardous substances
LOGISTICS	Collection	Varius trasporter/Truks
	Sorting	Dedicated area
	Batch size,identification and marking	15 - 30 TON; identified location
	Pre tretment	Washing, grinding
	Storage	Outside
TEST CARRIED OUT BEFORE PROCESSING	UNI 10667-10 (on flakes)	
PROCESS PARAMETERS	See "CHECK WASHING PARAMETERS"	
TEST CARRIED OUT AFTER PROCESSING	UNI 10667-10 (on granules)	
INTENDED (SUITABLE) APPLICATION	Cold-filled yogurt;Hot-filled yogurt;Trays for meat, fish or cheese;Trays for food and vegetables;Cups for cold drinks;Cups for hot drinks	

INFORMATION ON THE FORMS USED (LOT OF BALES WITH WHICH THE FLAKE IS PRODUCED; ACCORDING TABLE 1 EN 15343)		
FORMS NUMBER	SUPPLIER IDENTIFICATION	DATE (DELIVERED IN FOREVER PLAST)
REF. 208692	SUPPLIER 1	24/07/2024
REF. 219940	SUPPLIER 2	10/09/2024
REF. 333978	SUPPLIER 3	21/10/2024
DUF 589616/2023	SUPPLIER 4	30/10/2024

VERIFICATION OF THE CONTENT OF MATERIAL SUITABLE FOR FOOD CONTACT - TEST PERFORMED ON 50Kg OF BALES
ALL THE FORMS USED ARE FOUND SUITABLE (QUATITY OF FOOD MATERIAL >=95%)

REQUIRED CHARACTERISTICS OF PLASTIC WASTE (ACCORDING EN 15347)	
BATCH SIZE	15 - 30 Ton
COLOUR	Mixed colours
FORM OF WASTE	Mixed forms
HISTORY OF WASTE	No contatct with hazardous substances
MAIN POLYMER PRESENT	Polystyrene
OTHER POLYMER PRESENT	Polyethylene, Polypropylene
PACKAGING	Pressed and strapped bales

QUOTE OF POLYOLEFINS DETECTED (ON GRANULES)		
PARAMETERS	VALUES FOUND	LIMITS
PE CONTENT (Note 1)	0,10%	N.A.
PP CONTENT (Note 1)	0,00%	N.A.
TOTAL QUOTE OF POLYOLEFINS (Note 1)	0,10%	N.A.

PRESENCE OF OTHER (VISUAL ANALYSIS ON GRANULES)		
PARAMETERS	PRESENCE	LIMITS
PRESENCE OF METALLIC SPLINTERS	N0	N.A.
PRESENCE OF WOOD, PAPER, CELLULOSE	N0	N.A.

RESULTS ON GRANULES (ACCORDING UNI 10667-10)		
PARAMETERS	VALUES FOUND	LIMITS
PS CONTENT, COMPATIBLE ELASTOMERS (NOTA3)	97,64	95% - 100%
TOTAL ASH CONTENT	2,26	0 %- 4%
IZOD	3,34	1,8Kj/m^2 - 8Kj/m^2

Note 1
THERMAL SCANNING with DSC 20°/min in NITROGEN 50 ml/min
Note2
TYPICAL MOISTURE VALUE OF THE MATERIAL AT THE INLET OF THE EXTRUDER
Note 3
100-(ASH CONTENT+TOTAL POLYOLEFINS)

Annex 3 – Decontaminated PS (rPS) Lot identification

Versalis Refence PS lot consists of 100 tons of homogeneous material. The homogeneity of the product is guaranteed by continuous e repeated mixing of input flakes and mixing in homogenizing storage silos before bagging of the final Revive PS. For purpose of tracing and quality identification of Versalis Refence PS each Lot will be subject to the following actions:

• Identification with a unique tracing number,

• Identification of a sample representative of the Lot (see Paragraph 8)

Each batch of Versalis Refence PS is identified with an 11-digit alphanumeric code as described below:

Lot: AA BBBB CCCCC

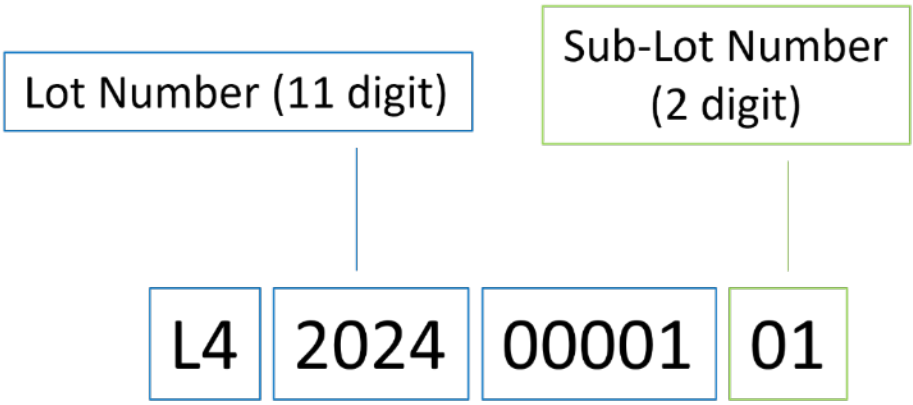
where:

AA: Foreverplast Production Line

BBBB: Year of production

CCCCC: progressive production number

In order to allow optimal management of goods handling, each lot may be further divided into sub-lots which identify the individual trucks. Below is a representation of the Lot and sub-lot:



Annex 4 –Styrene and Ethylbenzene determination in input and output batches

1.0 Scope of the method

Determination of styrene and ethylbenzene amount by gas chromatographic analysis in polymer samples.

2.0 Principle of the method

The analysis is carried out according to the internal standard method by adding a known amount of cyclohexanone (internal standard) to the sample dissolved in 1:1 THF-acetone solution. The mixture is injected direct into the gaschromatograph. Styrene and ethylbenzene are identified on the chromatograph through their retention time. Their quantities are determined by comparing their areas with the area of the internal standard.

3.0 Interference

None.

4.0 Appartus

- AGILENT 8890 gaschromatograph having the following characteristics:
  - FID detector
  - Capillary column, internal diameter 0.32 – 0.50 mm, length 20 - 30 m
  - Stationary phase Carbowax 20M, film 0.4 – 1.0 µ thick
- 10 µl microsyringe

- 10 ml vials
- Device to open vials

5.0 REAGENTS

- Pure tetrahydrofuran (THF) hydroquinone stabilized.
- Pure cyclohexanone.
- Acetone pure reagent grade.
- nitrogen, hydrogen, air.
- Standard cyclohexanone in vial.

6.0 Procedure

6.1 Sample solution

Pour in a vial 0.3 - 0.4 g of sample exactly weighed; add 5 ml of standard sample (cyclohexanone solution) and weigh exactly. Calculate cyclohexanone amount in mg.

$$CY\text{-}ONE = STD \times P$$

where:

CY-ONE = cyclohexanone per g of solution

P = added solution, g

Put the vial under mechanical stirring to dissolve polymer.

6.2 Operating conditions

Set the chromatograph as follows:

- Temperature program: 90 °Cx4' – 4 °C/minute raise until 120 °Cx0'. Then 45 °C/minute raise until 200 °Cx0'.
- Chamber temperature 95 °C
- Injector temperature 220°C
- Detector temperature 240°C
- Helium (column I.D. 0.53 mm) 3 ml/min
- N2 make-up 30 ml/min
- H2 pressure 35 ml/min
- Air 350 ml/min
- Split 1:40
- Electrometer x0

6.3 Preparation of the Internal Standard Solution

Solution A preparation

Weighing on an analytical balance in a 100 ml flask, 0.5 g of propionitrile (**pPRN**) and 15 g of cyclohexanone (**pCY-ONE**). Add a solution of acetone / THF 1:1 until the volume of the flask is reached and record the final weight (**pTOT, A**).

Solution B preparation

Take about 1.5 g of solution A (**pA**) in an open vial and place it in a 1000 ml flask. Add a solution of acetone / THF 1:1 until the volume of the flask is reached and record the weight of solvent added (**pTOT, B**).

The cyclohexanone, in mg/g of solution, and and propionityle, µg/g of solution, concentrations are calculated by means of the following formulas:

$$\frac{\mu g}{g}\ \text{PRN (SOL B)} = \frac{(\text{pPRN}*1000000*\text{pA})}{(\text{pTOT,A}*\text{pTOT,B})}$$

$$\frac{mg}{g}\ \text{CY-ONE (SOL B)} = \frac{(\text{pCY-ONE}*1000*\text{pA})}{(\text{pTOT,A}*\text{pTOT,B})}$$

On the base of sample nature, it is necessary to calculate the correction factors, compared with the standard. Prepare an exactly weighed solution containing all the components usually present in the sample, in which each component has the same concentration of a typical polymer sample.

Internal standard is added and the resulting solution is injected.

The correction factors are calculated as follows:

$$CF_i = \frac{A_R}{A_i} * \frac{P_i}{P_R}$$

where:

A_r = standard peak area

A_i = i component peak area

P_i = weight of i component in the solution, g

P_r = weight of standard in the solution, g

6.4 Performance of the analysis

Sample 0,5–1.0 µl by means of a micro-syringe and inject in the gas-chromatographer.

Plot the chromatogram.

7.0 Expression of the results

The styrene or ethylbenzene content in the sample is given by the following formula:

$$X\% = \frac{P_s \cdot A_x \cdot CF \cdot 100}{A_s \cdot P_c}$$

where:

X % = Styrene or ethylbenzene amount in the polymer, %wt

A_s = standard peak area

P_s = standard weigh in solution

Pc = weight of the sample

CF = correction factor of the component

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