

APPENDIX 3: SUMMARY OF MICROPLASTIC INGREDIENT (MPI) DATA FROM UK PRODUCT DATABASE

Data collection, through online and in-shop monitoring of full product ingredient lists, commenced in 2012 and now includes records of ca. 1500 products across over 10 product categories. We have found ingredient names commonly associated with microplastic ingredients (MPIs), such as polyethylene (PE), polypropylene (PP), polyethylene terephthalate (PET), polymethyl methacrylate (PMMA), polytetrafluoroethylene (PTFE) or nylon, in more than half of the product categories reviewed. We have also found over 90 unverified polymeric ingredients of concern (see Appendix 4), which could be MPIs in some product formulations, in

products across more than half of the product categories reviewed. Over the course of 2016, FFI has been systematically reviewing the data it holds, updating records where appropriate. These updates could reflect changes to ingredient lists in line with voluntary corporate commitments to phase out MPI use or they might reflect corporate change due to increased public awareness on the issue or due to the introduction or proposal of relevant legislation in other countries.

All information below was correct to the best of our knowledge in January 2017.

Table A1. Summary of data collected online and/or in shops in the period from 2012 to 2015. The aim during this period was to grow our product and ingredient list with information about known or common MPIs and also about names of unverified polymeric ingredients of concern (see Appendix 4) which could be MPIs in some product formulations.

Intended application of product	Route to drainage	Product category	Product counts								
			Containing known MPIs commonly used in solid, water insoluble form						Containing both known MPIs and unverified polymeric ingredients of concern	Containing unverified polymeric ingredients of concern (see Appendix 4)	Without any known MPIs or unverified polymeric ingredients of concern
			PE	PP	PET	PMMA	PTFE	Nylon			
Applied to human body	<i>Intended removal from skin involves drainage emission and product directs users to emit to drainage</i>	Bath product	0	0	3	0	0	0	3	61	166
		Body glitter	0	0	0	0	0	0	0	3	17
		Body scrub	44	0	0	0	0	0	21	44	132
		Deodorant	4	0	0	0	0	0	0	0	3
		Face mask	0	0	0	0	0	0	0	0	3
		Face scrub	131	2	0	2	0	6	40	87	135
		Fake tan	0	0	0	0	0	1	1	1	0
		Foot scrub	3	0	0	0	0	0	1	3	11
		Hand scrub	2	0	0	0	0	0	1	2	11
		Industrial hand cleaner	1	0	0	0	0	0	0	0	0
		Shampoo	0	0	0	0	0	0	0	32	224

		Shaving product	0	0	0	0	2	1	2	23	26
		Shower gel	0	0	0	0	0	0	0	1	5
		Soap	1	0	0	0	0	0	0	0	40
		Toothpaste	8	0	0	0	0	0	2	13	109
	<i>Some users remove to drainage in practice and removal products direct users to emit to drainage</i>	BB cream	0	0	0	0	0	2	1	3	0
		Foundation	1	0	0	1	0	2	2	4	2
		Lipstick	6	0	0	0	0	0	4	4	2
		Mascara	1	0	0	0	0	0	1	6	1
		Powder	0	0	0	0	0	1	1	1	0

Table A2. Summary of data collected online and/or in shops in 2016. The aim during this period was to learn about the range of products in which MPis can be found and also to monitor for changes in ingredient lists that were already in our database (see Tables A3 and A4 below for summaries of observed changes).

Intended application of product	Route to drainage	Product category	Product counts								
			Containing known MPis commonly used in solid, water insoluble form					Containing both known MPis and unverified polymeric ingredients of concern	Containing unverified polymeric ingredients of concern (see Appendix 4)	Without any known MPis or unverified polymeric ingredients of concern	
			PE	PP	PET	PMMA	PTFE				Nylon
Applied to human body	<i>Some users remove to drainage in practice and removal products direct users to emit to drainage</i>	Body scrub	3	0	0	0	0	0	2	2	0
		Deodorant	1	0	0	0	0	0	1	1	0
		Face mask	1	0	0	0	0	0	0	6	8
		Face scrub	9	0	0	0	0	0	2	6	14
		Fake tan	0	0	0	0	0	0	0	1	0
		Hairspray	0	0	0	0	0	0	0	1	0
		Industrial hand cleaner	6	1	0	0	0	0	0	0	0
		Shaving product	0	0	0	0	4	0	4	15	1
		Shower gel	0	0	0	0	0	0	0	2	2
		Toothpaste	0	0	0	0	0	0	0	4	0
		BB cream	2	0	0	0	0	2	4	8	0
		Blusher	0	0	0	0	2	0	2	2	0

		CC cream	1	0	0	0	0	0	1	2	1	
		Concealer	0	0	0	0	0	1	1	1	0	
		Eyeshadow	0	0	0	0	0	2	0	0	0	
		Foundation	0	0	0	0	0	0	0	2	0	
		Highlighter	1	0	0	1	0	1	1	1	0	
		Lip balm	1	0	0	0	0	0	0	0	1	
		Lipstick	3	0	1	0	0	0	3	3	0	
		Mascara	0	0	1	0	1	2	2	2	0	
		Moisturiser	0	0	0	1	1	2	3	11	5	
		Powder	0	0	0	1	0	1	0	0	0	
Inserted into domestic or industrial washing machines or dishwashers	<i>Emitted to drainage directly via washing machine or dishwasher</i>	Dishwasher cleaner	0	0	0	0	0	0	0	1	1	
		Dishwasher detergent	0	0	0	0	0	0	0	0	3	0
		Fabric stain remover	0	0	0	0	0	0	0	0	13	8
		Laundry detergent	0	0	0	0	0	0	0	0	12	4
		Washing machine cleaner	0	0	0	0	0	0	0	0	3	0
Applied to domestic or industrial surface	<i>Intended removal involves drainage emission</i>	Floor cleaner	1	0	0	0	0	0	0	0	1	
		Multipurpose cleaner	0	0	0	0	0	0	0	0	1	0

Table A3. Summary and assessment of potential change or lack of change observed in 2016 in product ingredient lists that contained known MPIs, commonly used in solid, water insoluble form, in the period 2012-2015. The 2016 statuses of products were verified both through online ingredient list searches and through checking the ingredient lists on the products' packaging in UK shops.

Intended application of product	Route to drainage	Product category	Observed potential change or lack of change		
			2012-2015 status: contains known MPIs → 2016 status: still contains known MPIs	2012-2015 status: contains known MPIs → 2016 status: no longer contains known MPIs but contains unverified polymeric ingredients of concern	2012-2015 status: contains known MPIs → 2016 status: without any known MPIs or unverified polymeric ingredients of concern
Applied to human body	<i>Intended removal from skin involves drainage emission and product directs users to emit to drainage</i>	Body scrub	3	3	3
		Deodorant	3	1	1
		Face scrub	28	15	17
		Soap	0	1	0
		Toothpaste	1	0	2
		All product types (total change)	35 (44.9%)	20 (25.6%)	23 (29.5%)

Table A4. Latest evaluation of potential change or lack of change observed in the last four months of 2016 in product ingredient lists that contained common known MPIs in the period 2012-2015. The statuses of products in the period September – December 2016 were verified both through online ingredient list searches and through checking the ingredient lists on the products' packaging in UK shops.

Intended application of product	Route to drainage	Product category	Observed potential change or lack of change		
			2012-2015 status: contains known MPIs → Sep-Dec 2016 status: still contains known MPIs	2012-2015 status: contains known MPIs → 2016 status: no longer contains known MPIs but contains unverified polymeric ingredients of concern	2012-2015 status: contains known MPIs → 2016 status: without any known MPIs or unverified polymeric ingredients of concern
Applied to human body	<i>Intended removal from skin involves drainage emission and product directs users to emit to drainage</i>	Body scrub	1	3	2
		Deodorant	3	1	1
		Face scrub	24	11	11
		Soap	0	1	0
		All product types (total change)	28 (48.3%)	16 (27.6%)	14 (24.1%)