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TEST REPORT No. FUTYP2020-01959-C

Date sample received: March 06/2020
Period of testing: March 19/2020 – April 29/2020
Technical Director: Kerstin Scharrer

Sample description: EPDM Granulates E1, E2, E7, E8, E11, E12, E13, E15, E16, E17, E18, E19, E20



For the test results please refer to next pages

Test order

Test of products for polycyclic aromatic hydrocarbons

Summary	Results
Further requirements	<i>pass</i>

Sample description:

No. 1:	Granulate E1 (red rose)
No. 2:	Granulate E2 (orange)
No. 7:	Granulate E7 (brown)
No. 8:	Granulate E8 (dark brown)
No. 11:	Granulate E11 (light blue)
No. 12:	Granulate E12 (dark blue)
No. 13:	Granulate E13 (purple)
No. 15:	Granulate E15 (light grey)
No. 16:	Granulate E16 (dark grey)
No. 17:	Granulate E17 (light green)
No. 18:	Granulate E18 (blue)
No. 19:	Granulate E19 (light brown)
No. 20:	Granulate E20 (EPDM red 0,5-1,5 mm)

Test results

Abbreviations:
n.d. = not determinable (< LoQ)
LoQ = limit of quantification

1. Polycyclic Aromatic Hydrocarbons according to US-EPA+ 2 EFSA PAH and according to Regulation (EC) No. 1907/2006 (REACH) Annex XVII No. 50

Test method: AfPS GS 2019:01 PAK (2019-05)
Limit of quantification: 0.1 mg/kg

Test results in mg/kg

Parameter	CAS-No.	Sample No. 1	Sample No.2	Sample No. 7	Sample No. 8
1 Naphthalene	91-20-3	0.26	0.14	0.14	0.18
2 Acenaphthylene	208-96-8	n.d.	n.d.	n.d.	n.d.
3 Acenaphthene	83-32-9	n.d.	n.d.	n.d.	n.d.
4 Fluorene	86-73-7	0.66	0.22	0.23	0.68
5 Phenanthrene	85-01-8	1.9	0.40	0.46	1.1
6 Anthracene	120-12-7	0.22	n.d.	n.d.	n.d.
7 Fluoranthene	206-44-0	0.39	0.14	0.18	n.d.
8 Pyrene	129-00-0	n.d.	n.d.	0.21	n.d.
9 Benzo(a)anthracene	56-55-3	0.23	n.d.	n.d.	n.d.

Polycyclic Aromatic Hydrocarbons - continued

Test results in mg/kg

Parameter	CAS-No.	Sample No. 1	Sample No.2	Sample No. 7	Sample No. 8
10 Chrysene	218-01-9	0.28	n.d.	n.d.	n.d.
∑11+12 Benzo(b)fluoranthene + Benzo(j)fluoranthene	205-99-2 + 205-82-3	n.d.	n.d.	n.d.	n.d.
13 Benzo(k)fluoranthene	207-08-9	n.d.	n.d.	n.d.	n.d.
14 Benzo(e)pyrene	192-97-2	n.d.	n.d.	0.21	n.d.
15 Benzo(a)pyrene	50-32-8	n.d.	n.d.	n.d.	n.d.
16 Indeno(1,2,3-cd)pyrene	193-39-5	n.d.	n.d.	n.d.	n.d.
17 Dibenzo(a,h)anthracene	53-70-3	n.d.	n.d.	n.d.	n.d.
18 Benzo(ghi)perylene	191-24-2	n.d.	n.d.	n.d.	n.d.
Sum 15 PAH		3.3^b	0.40^b	0.88^b	1.1^b

^a For summation according to AfPS GS 2019:01 PAK the following PAH are not included: Acenaphthylene, Acenaphthene, Fluorene

^b Only contents from 0.2 mg/kg were used for summation.

Parameter	CAS-No.	Sample No. 11	Sample No. 12	Sample No. 13	Sample No. 15
1 Naphthalene	91-20-3	0.34	0.30	n.d.	n.d.
2 Acenaphthylene	208-96-8	n.d.	n.d.	n.d.	n.d.
3 Acenaphthene	83-32-9	n.d.	n.d.	n.d.	n.d.
4 Fluorene	86-73-7	0.19	n.d.	0.32	0.21
5 Phenanthrene	85-01-8	0.87	0.61	0.65	0.53
6 Anthracene	120-12-7	n.d.	n.d.	n.d.	n.d.
7 Fluoranthene	206-44-0	0.25	0.16	n.d.	0.16
8 Pyrene	129-00-0	n.d.	n.d.	n.d.	0.15
9 Benzo(a)anthracene	56-55-3	n.d.	n.d.	n.d.	n.d.
10 Chrysene	218-01-9	0.15	0.12	n.d.	n.d.
∑11+12 Benzo(b)fluoranthene + Benzo(j)fluoranthene	205-99-2 + 205-82-3	n.d.	n.d.	n.d.	n.d.
13 Benzo(k)fluoranthene	207-08-9	n.d.	n.d.	n.d.	n.d.
14 Benzo(e)pyrene	192-97-2	n.d.	n.d.	n.d.	n.d.
15 Benzo(a)pyrene	50-32-8	n.d.	n.d.	n.d.	n.d.
16 Indeno(1,2,3-cd)pyrene	193-39-5	n.d.	n.d.	n.d.	n.d.
17 Dibenzo(a,h)anthracene	53-70-3	n.d.	n.d.	n.d.	n.d.
18 Benzo(ghi)perylene	191-24-2	n.d.	n.d.	n.d.	n.d.
Sum 15 PAH		1.5^b	0.91^b	0.65^b	0.53^b

^a For summation according to AfPS GS 2019:01 PAK the following PAH are not included: Acenaphthylene, Acenaphthene, Fluorene

^b Only contents from 0.2 mg/kg were used for summation.

Polycyclic Aromatic Hydrocarbons - continued

Test results in mg/kg

Parameter	CAS-No.	Sample No. 16	Sample No. 17	Sample No. 18	Sample No. 19
1 Naphthalene	91-20-3	n.d.	n.d.	n.d.	n.d.
2 Acenaphthylene	208-96-8	n.d.	n.d.	n.d.	n.d.
3 Acenaphthene	83-32-9	n.d.	n.d.	n.d.	n.d.
4 Fluorene	86-73-7	n.d.	n.d.	0.45	n.d.
5 Phenanthrene	85-01-8	n.d.	0.12	0.81	0.12
6 Anthracene	120-12-7	n.d.	n.d.	n.d.	n.d.
7 Fluoranthene	206-44-0	n.d.	n.d.	n.d.	n.d.
8 Pyrene	129-00-0	n.d.	n.d.	n.d.	n.d.
9 Benzo(a)anthracene	56-55-3	n.d.	n.d.	n.d.	n.d.
10 Chrysene	218-01-9	n.d.	n.d.	n.d.	n.d.
Σ11+12 Benzo(b)fluoranthene + Benzo(j)fluoranthene	205-99-2 + 205-82-3	n.d.	n.d.	n.d.	n.d.
13 Benzo(k)fluoranthene	207-08-9	n.d.	n.d.	n.d.	n.d.
14 Benzo(e)pyrene	192-97-2	n.d.	n.d.	n.d.	n.d.
15 Benzo(a)pyrene	50-32-8	n.d.	n.d.	n.d.	n.d.
16 Indeno(1,2,3-cd)pyrene	193-39-5	n.d.	n.d.	n.d.	n.d.
17 Dibenzo(a,h)anthracene	53-70-3	n.d.	n.d.	n.d.	n.d.
18 Benzo(ghi)perylene	191-24-2	n.d.	n.d.	n.d.	n.d.
Sum 15 PAH		n.d.^b	n.d.^b	0.81^b	n.d.^b

^a For summation according to AfPS GS 2019:01 PAK the following PAH are not included: Acenaphthylene, Acenaphthene, Fluorene

^b Only contents from 0.2 mg/kg were used for summation.

Parameter	CAS-No.	Sample No. 20
1 Naphthalene	91-20-3	n.d.
2 Acenaphthylene	208-96-8	n.d.
3 Acenaphthene	83-32-9	n.d.
4 Fluorene	86-73-7	n.d.
5 Phenanthrene	85-01-8	n.d.
6 Anthracene	120-12-7	n.d.
7 Fluoranthene	206-44-0	n.d.
8 Pyrene	129-00-0	n.d.
9 Benzo(a)anthracene	56-55-3	n.d.
10 Chrysene	218-01-9	n.d.
Σ11+12 Benzo(b)fluoranthene + Benzo(j)fluoranthene	205-99-2 + 205-82-3	n.d.
13 Benzo(k)fluoranthene	207-08-9	n.d.
14 Benzo(e)pyrene	192-97-2	n.d.
15 Benzo(a)pyrene	50-32-8	n.d.
16 Indeno(1,2,3-cd)pyrene	193-39-5	n.d.
17 Dibenzo(a,h)anthracene	53-70-3	n.d.
18 Benzo(ghi)perylene	191-24-2	n.d.
Sum 15 PAH		n.d.^b

^a For summation according to AfPS GS 2019:01 PAK the following PAH are not included: Acenaphthylene, Acenaphthene, Fluorene

^b Only contents from 0.2 mg/kg were used for summation.

Conclusion

The tested sample of the presented products “**EPDM Granulates E1, E2, E7, E8, E11, E12, E13, E15, E16, E17, E18, E19, E20**” conform to the EC-Regulation 1907/2006, Annex XVII No. 50.

Remark

Requirements acc. to AfPS GS 2019:01 PAK (Utilization for GS-mark from July 1st, 2020) and Regulation (EC) No. 1907/2006, Annex XVII No. 50

Parameter	Category 1	Category 2		Category 3		Limit value acc. to EC regulation 1907/2006, Annex XVII No. 50	
		a. Use by children	b. other consumer products	a. Use by children	b. other consumer products	Toys, including activity toys, and childcare articles – Components rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use	Articles shall not be placed on the market for supply to the general public, if any of their rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use
Benzo[a]pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1		
Benzo[e]pyrene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1	0.5	1
Benzo[a]anthracene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1	0.5	1
Benzo[b]fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1	0.5	1
Benzo[j]fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1	0.5	1
Benzo[k]fluoranthene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1	0.5	1
Chrysene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1	0.5	1
Dibenzo[a,h]anthracene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1	0.5	1
Benzo[ghi]perylene mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	< 1	-	-
Indeno[1,2,3-cd]pyrene mg/kg	< 0,2	< 0.2	< 0.5	< 0.5	< 1	-	-
Phenanthrene, Pyrene, Anthracene, Fluoranthene, mg/kg	< 1 – Sum	< 5 – Sum	< 10 – Sum	< 20 – Sum	< 50 – Sum	-	-
Naphthalene mg/kg	< 1	< 2		< 10		-	-
Sum 15 PAH mg/kg	<1	< 5	< 10	< 20	< 50	-	-
Evaluation	-	-	-	-	-	pass	-

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