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ASSESSMENT REPORT – RE108114A

EU 10/2011 COMPLIANCE

CLIENT NAME

Intertek Testing Services Korea Ltd.
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South Korea

On behalf of:
HYOSUNG CHEMICAL Corporation
Attn: Myoung Nyoung Lee
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South Korea

DATE

March 25th, 2026

RE10114A

March 25th, 2026

RE108114A: This version replaces the previous version.
Reason for revision: Addition of “On behalf of” on the front page.

Dear Mr./Ms. Lee,

Hereby we present to you the results of the document study, which was carried out in accordance with your request (Ref. S108114).

The general conditions of delivery for Intertek Polychemlab B.V., located in Geleen, the Netherlands, are applicable. These conditions are an integral part of all research carried out and the services and consultations provided; where appropriate, can be expanded upon by specific client agreement.

Samples of unknown origin can only be checked for plausibility to a limited extent. Results of the examination of these samples only relate to the samples as received by Intertek.

Intertek is not responsible for the data supplied by the client and or its supplier which may affect the validity of the findings.

We trust that this information will meet your approval.

Yours sincerely,

Rens Pörteners
Application Specialist Food Contact

1 INTRODUCTION

Intertek Testing Services Korea Ltd. requested Intertek Polychemlab B.V. to assist in verifying whether their product compositions comply with the table 1 of Annex I of the Commission Regulation EU 10/2011, and if any restrictions on components apply. 4 sets of products were provided:

Table 1: Product list

Set	Product name	QTY
Set #1	PK Base - **M130F, M330F, M530F, M630F, M730F, M410F, M710F, M640F**	8
Set #2	PK Base Black - **M(a)(b)FX0A-BK0 : (a)=1,3,4,5,6,7 and (b)=1,3**	12
Set #3	PK GF reinforced - **M(a)3FG(b)B-NP0 : (a)=1,3,6,7 and (b)=1~9**	36
Set #4	PK GF reinforced Black - **M(a)3FG(b)B-BK0 : (a)=1,3,6,7 and (b)=1~9**	36

The following documentation has been provided by Hyosung Chemical Corporation:

- Set#1. Poketone M130F, M330F, M530F, M630F, M730F, M410F, M710F, M640F:
  - Full composition;
  - Hyosung Declaration of Compliance dated 26 January 2026;
  - Hyosung MSDS of each component.
- Set#2. Poketone M(a)(b)FX0A-BK0 (a=1,3,4,5,6,7 b=1,3):
  - Full composition;
  - Hyosung Declaration of Compliance dated 26 January 2026;
  - Hyosung MSDS of each component.
- Set#3. Poketone M(a)3FG(b)B-NP0 (a=1,3,6,7 b=1~9):
  - Full composition;
  - Hyosung Declaration of Compliance dated 26 January 2026;
  - Hyosung MSDS of each component.
- Set#4. Poketone M(a)3FG(b)B-BK0 (a=1,3,6,7 b=1~9):
  - Full composition;
  - Hyosung Declaration of Compliance dated 26 January 2026;
  - Hyosung MSDS of each component.

2 REQUIREMENTS

Within Europe the Framework Regulation 1935/2004 EC is applicable for all materials which are intended to come into contact with food. The overall message, among others, of the Framework regulation is that materials and articles need to be manufactured according GMP (Good Manufacturing Practice) and that they may not endanger human health. For some materials, specific legislation is in place.

To this date, the EU has not introduced any specific legislation relating to many other food contact materials like e.g. metals, paper & board, printing inks, adhesives etc. in contact with foodstuffs. The most common adopted approach to ensure that the materials meet the requirements of the Framework Regulation 1935/2004 is to demonstrate that the material meets legislation on national level, resolutions of the Council of Europe and/or guidelines published by Industry associations.

The assessment of documents is done based on the regulations as summarized below.

General legislation

- **Framework Regulation (EC) 1935/2004**. On materials and articles intended to come into contact with food;
- **Commission Regulation (EC) No. 2023/2006**. On Good Manufacturing practice for materials and articles intended to come into contact with food.

Plastics

- **Commission Regulation (EU) No. 10/2011**. On plastic materials and articles intended to come into contact with food.

Recycled plastics

- **Commission Regulation (EU) No. 2022/1616**. On recycled plastic materials and articles intended to come into contact with foods, and repealing Regulation (EC) No 282/2008.

Pigments

- **Resolution AP89(1).** On the use of colourants in plastic materials coming into contact with food.

The document assessment is performed based on Intertek's global regulatory knowledge and by using the database G-Comply*.

* ***gComply*** *is a global substance database and library of full-regulations covering over 180 countries and 80,000 regulations applicable to food, consumer, and chemical substances and product.*

3 DOCUMENT EVALUATION

The assessment is based on the received documentation from the client and has been assessed against the applicable legislation(s).

3.1 Evaluation of the documents and legal status

In table 2 an overview is given of the information received from the client in relation to the products. This includes relevant information in relation to the EU food contact compliance.

Technical data or information sheets provided, containing no relevant information towards the EU food contact compliance are not used and not included in the table below.

Table 2: Document overview and legal status

PRODUCT	TYPE OF DOCUMENT	ISSUE DATE (DD-MM-YYYY)	COMPLIANCE DECLARED TO				COMMENT(S)
			1935/2004	2023/2006	10/2011	OTHER	
Hyosung, **Poketone Set #1 (M130F, M330F, M530F, M630F, M730F, M410F, M710F, M640F)**	Declaration of Compliance	26-01-2026	Y	Y	Y		Including all amendments up to EU 2025/351
Hyosung, **Poketone Set #2 M(a)(b)FX0A-BK0 (a=1,3,4,5,6,7 b=1,3)**	Declaration of Compliance	26-01-2026	Y	Y	Y		Including all amendments up to EU 2025/351
Hyosung, **Poketone Set #3 M(a)3FG(b)B-NP0 (a=1,3,6,7 b=1~9)**	Declaration of Compliance	26-01-2026	Y	Y	Y		Including all amendments up to EU 2025/351
Hyosung, **Poketone Set #4 M(a)3FG(b)B-BK0 (a=1,3,6,7 b=1~9)**	Declaration of Compliance	26-01-2026	Y	Y	Y		Including all amendments up to EU 2025/351

3.2 Restricted component overview

An overview of the substances present in the individual materials is given in table 3. Unless specified otherwise, the SML in each instance is mentioned in mg/kg food.

Table 3: Overview of components and those subject to specific migration limit under EU 10/2011

MATERIAL	COMPONENT	CAS	SML mg/kg	COMMENT(S)
Poketone Set #1 M130F, M330F, M530F, M630F, M730F, M410F, M710F, M640F	Carbon Monoxide	630-08-0	-	Monomer in Aliphatic Polyketone CAS 88995-51-1, no restrictions
	Ethylene	74-85-1	-	Monomer in Aliphatic Polyketone CAS 88995-51-1, no restrictions
	Propylene	115-07-1	-	Monomer in Aliphatic Polyketone CAS 88995-51-1, no restrictions
	1,3,5-Trimethyl-2,4,6-tris(3,5-di-t-butyl-4-hydroxybenzyl)benzene	1709-70-2	-	Additive, Listed without SML
	Pentacalcium Hydroxide Tris(orthophosphate)	12167-74-7	-	Additive, dual-use additive, calcium salt
	Poly(ethylene-1-butene)	25087-34-7	-	Additive, monomers (ethylene and 1-butene) listed without restrictions
	Methacrylic acid-ethylene copolymer CAS 25053-53-6 (monomers: ethylene and methacrylic acid)	74-85-1	-	Monomer, listed without SML
		79-41-4	(T) 6	Expressed as methacrylic acid
Poketone Set #2 M(a)(b)FX0A-BK0 (a=1,3,4,5,6,7 b=1,3)	Carbon Monoxide	630-08-0	-	Monomer in Aliphatic Polyketone CAS 88995-51-1, no restrictions
	Ethylene	74-85-1	-	Monomer in Aliphatic Polyketone CAS 88995-51-1, no restrictions
	Propylene	115-07-1	-	Monomer in Aliphatic Polyketone CAS 88995-51-1, no restrictions
	1,3,5-Trimethyl-2,4,6-tris(3,5-di-t-butyl-4-hydroxybenzyl)benzene	1709-70-2	-	Additive, Listed without SML
	Pentacalcium Hydroxide Tris(orthophosphate)	12167-74-7	-	Additive, dual-use additive, calcium salt

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MATERIAL	COMPONENT	CAS	SML mg/kg	COMMENT(S)
	Methacrylic acid-ethylene copolymer CAS 25053-53-6 (monomers: ethylene and methacrylic acid)	74-85-1	-	Monomer, listed without SML
		79-41-4	(T) 6	Expressed as methacrylic acid
	Color Master Batch (Black color)			
	Poly(ethylene-1-butene) CAS	25087-34-7	-	Additive, monomers (ethylene and 1-butene) listed without restrictions
	Carbon Black	1333-86-4	-	Additive. See comments below table on requirements.
Poketone Set #3 M(a)3FG(b)B-NP0 (a=1,3,6,7 b=1~9)	Carbon Monoxide	630-08-0	-	Monomer in Aliphatic Polyketone CAS 88995-51-1, no restrictions
	Ethylene	74-85-1	-	Monomer in Aliphatic Polyketone CAS 88995-51-1, no restrictions
	Propylene	115-07-1	-	Monomer in Aliphatic Polyketone CAS 88995-51-1, no restrictions
	1,3,5-Trimethyl-2,4,6-tris(3,5-di-t-butyl-4-hydroxybenzyl)benzene	1709-70-2	-	Additive, Listed without SML
	Pentacalcium Hydroxide Tris(orthophosphate)	12167-74-7	-	Additive, dual-use additive, calcium salt
	Poly(ethylene-1-butene)	25087-34-7	-	Additive, monomers (ethylene and 1-butene) listed without restrictions
	Methacrylic acid-ethylene copolymer CAS 25053-53-6 (monomers: ethylene and methacrylic acid)	74-85-1	-	Monomer, listed without SML
		79-41-4	(T) 6	Expressed as methacrylic acid
	Glass, Oxide	65997-17-3		Additive, FCM 38 “glass fiber” – no restrictions
Poketone Set #4 M(a)3FG(b)B-BK0 (a=1,3,6,7 b=1~9)	Carbon Monoxide	630-08-0	-	Monomer in Aliphatic Polyketone CAS 88995-51-1, no restrictions
	Ethylene	74-85-1	-	Monomer in Aliphatic Polyketone CAS 88995-51-1, no restrictions

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MATERIAL	COMPONENT	CAS	SML mg/kg	COMMENT(S)
	Propylene	115-07-1	-	Monomer in Aliphatic Polyketone CAS 88995-51-1, no restrictions
	1,3,5-Trimethyl-2,4,6-tris(3,5-di-t-butyl-4-hydroxybenzyl)benzene	1709-70-2	-	Additive, Listed without SML
	Pentacalcium Hydroxide Tris(orthophosphate)	12167-74-7	-	Additive, dual-use additive, calcium salt
	Methacrylic acid-ethylene copolymer CAS 25053-53-6 (monomers: ethylene and methacrylic acid)	74-85-1	-	Monomer, listed without SML
		79-41-4	(T) 6	Expressed as methacrylic acid
	Glass, Oxide	65997-17-3		Additive, FCM 38 “glass fiber” – no restrictions
	Color Master Batch (Black color)			
	Poly(ethylene-1-butene) CAS	25087-34-7	-	Additive, monomers (ethylene and 1-butene) listed without restrictions
	Carbon Black	1333-86-4	-	Additive. See comments below table on requirements.

Remarks:

For Carbon black (CAS 1333-86-4) there are requirements/restrictions laid down in the EU 10/2011. Compliance with these restrictions can be declared by the manufacturer(s) and include the following:

- Primary particles of 10 – 300 nm which are aggregated to a size of 100 – 1 200 nm which may form agglomerates within the size distribution of 300 nm – mm;
- Toluene extractables: maximum 0.1 %, determined according to ISO method 6209;
- UV absorption of cyclohexane extract at 386 nm: < 0,02 AU for a 1 cm cell or < 0,1 AU for a 5 cm cell, determined according to a generally recognized method of analysis;
- Benzo(a)pyrene content: max 0.25 mg/kg carbon black;
- **Maximum use level of carbon black in the polymer: 2.5 % w/w (to be kept confirmed with by the producer of the intermediate/final article).**

4 CONCLUSION

4.1 Poketone Set #1 M130F, M330F, M530F, M630F, M730F, M410F, M710F, M640F

The composition of Poketone Set #1 M130F, M330F, M530F, M630F, M730F, M410F, M710F, M640F was found to be in compliance with the restrictions as laid down in the Commission Regulation (EU) No. 10/2011 (including amendments).

Compliance with overall and specific migration should be demonstrated on the final article. The product contains one substance with an SML which requires specific migration testing in the final product: **Methacrylic acid, CAS: 79-41-4. SML(T) = 6 mg/kg food**.

4.2 Poketone Set #2 M(a)(b)FX0A-BK0 (a=1,3,4,5,6,7 b=1,3)

The composition of Poketone Set #2 M(a)(b)FX0A-BK0 (a=1,3,4,5,6,7 b=1,3), was found to be in compliance with the restrictions as laid down in the Commission Regulation (EU) No. 10/2011 (including amendments).

Compliance with overall and specific migration should be demonstrated on the final article. The product contains one substance with an SML which requires specific migration testing in the final product: **Methacrylic acid, CAS: 79-41-4. SML(T) = 6 mg/kg food.**

4.3 Poketone Set #3 M(a)3FG(b)B-NP0 (a=1,3,6,7 b=1~9)

The composition of Poketone Set #3 M(a)3FG(b)B-NP0 (a=1,3,6,7 b=1~9) was found to be in compliance with the restrictions as laid down in the Commission Regulation (EU) No. 10/2011 (including amendments).

Compliance with overall and specific migration should be demonstrated on the final article. The product contains one substance with an SML which requires specific migration testing in the final product: **Methacrylic acid, CAS: 79-41-4. SML(T) = 6 mg/kg food.**

4.4 Poketone Set #4 M(a)3FG(b)B-BK0 (a=1,3,6,7 b=1~9)

The composition of Poketone Set #4 M(a)3FG(b)B-BK0 (a=1,3,6,7 b=1~9) was found to be in compliance with the restrictions as laid down in the Commission Regulation (EU) No. 10/2011 (including amendments).

Compliance with overall and specific migration should be demonstrated on the final article. The product contains one substance with an SML which requires specific migration testing in the final product: **Methacrylic acid, CAS: 79-41-4. SML(T) = 6 mg/kg food.**

The information as given in this report is to our best knowledge accurate on the day of publishing and based on the information received from the client and/or its suppliers. Any change/update in either the applicable regulations, usage, formulation of the product or the composition of the used raw/intermediate materials will turn this document null and void.
