



Food Contact Material Recall Notifications - 2023report 3

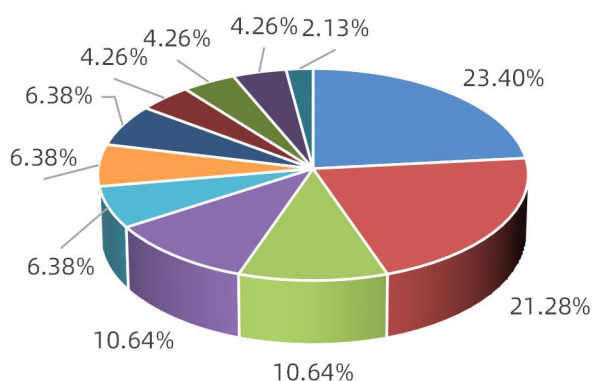
Food safety closely relates to food contact materials (FCM). With the development of FCM, kinds of safety problems accompany to appear too. Many countries lay down strict requirements to regulate FCM, such as EU, and it also build a special warning systems to exchange information about measures taken responding to serious risks detected in FCM.

This report summarizes the notification information of food contact materials from the European Union's Rapid Alert System for Food and Feed (RASFF) in the third quarter of 2023, with a total of 43 cases, 31 cases for China products, including 5 cases for Hong Kong products. The analysis is as follows:

1. Analysis of the reason for the notification

The reasons for this notification are mainly divided into two categories: harmful chemical risks and the use of unauthorized substances. Among them, the use of unauthorized substances caused the most notifications, a total of 11 times, accounting for 23.40%; Secondly, the migration of primary aromatic amines exceeded the standard for 10 times, accounting for 21.28%. See Figure 1 for details.

Figure 1 Distribution chart of the number (times) of notification reasons



- The use of unauthorized substances
- Primary aromatic amines migration
- Heavy metal migration
- Formaldehyde migration
- Overall migration
- Sensory quality defect
- Content of volatile organic compounds
- Phthalate migration
- Benzisothiazolinone (BIT) migration
- Melamine migration
- Bis(2-ethylhexyl) adipate migration

◆ Reason for notification "ranking list"

■ No. 1: Unauthorized substances were used (23.40%)

Analysis : The main notification products are plastic products mixed with unauthorized substances. Common unauthorized substances include bamboo fiber, wheat straw, coffee grounds and fruit shells. EU Food Contact Plastic Regulation (EU)No 10/2011, which lists the authorized substances, including: monomer; Additives; Polymer production AIDS (excluding solvents); Macromolecules obtained from microbial fermentation. Grass plants such as bamboo, corn, straw and sugarcane are not included in this list of authorized materials, and such unauthorized substances are not allowed to be used for the manufacture and processing of plastic food contact products.

■ No. 2: Migration of primary aromatic amines (21.28%)

Analysis : The presence of monomer residues (such as nylon products) or specific additives (such as azo toner) in food contact materials may produce primary aromatic amines. The detection limit of primary aromatic amines in the new EU plastics regulation (EU)No. 2020/1245 has dropped to 0.002mg/kg, which makes the above-mentioned high-risk materials prone to unqualified conditions.

■ No. 3: Excessive migration of heavy metals & excessive migration of formaldehyde (each 10.64%)

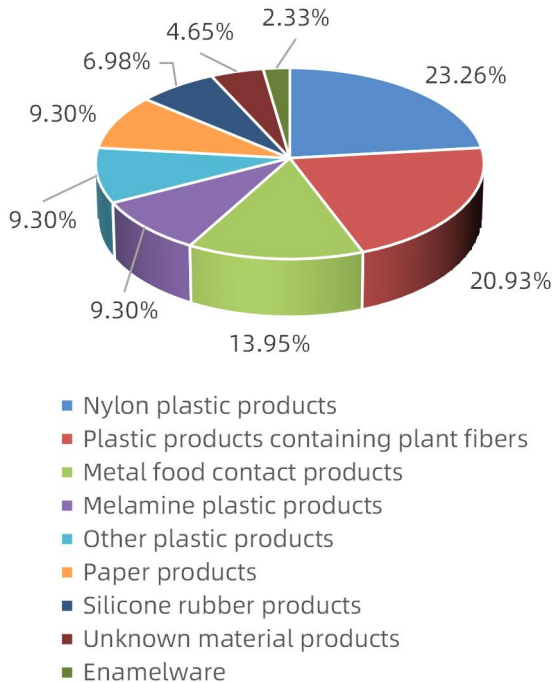
Analysis: The main notified products of heavy metal migration exceeding the standard are metal products and enamel products. The raw materials of these products mainly come from minerals. Inferior mineral raw materials may contain a lot of harmful heavy metals. Secondly, the substandard processing technology may also lead to the easy dissolution of heavy metals in the products. The main recalled product with excessive formaldehyde migration is melamine tableware. Melamine resin is mainly polymerized from melamine and formaldehyde monomer, and inferior melamine materials will release a large amount of free formaldehyde and melamine monomer.



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2. Analysis of the Products for the notification

Figure 2 Distribution of notified product types



◆ Materials and products for notification "ranking list"

■ No. 1: Nylon product (23.26%)

Analysis: Polyamide is commonly known as Nylon, and its English name is Polyamide (PA for short), which is the general name of thermoplastic resin with repeated amide group $-[NHCO]-$ in the molecular main chain, including aliphatic PA, aliphatic-aromatic PA and aromatic PA. Nylon polymerization monomer is the most common source of primary aromatic amines, so the reason why nylon plastic products are reported is that the migration of primary aromatic amines exceeds the standard.

■ No. 2: Plastic products containing plant fibers (20.93%)

Analysis: Plastic products containing plant fiber, as the name implies, plastic products with plant fiber, often have better biodegradability. Grass plants such as bamboo, corn, straw, sugarcane, etc. are not in the list of authorized materials for food contact plastics in the EU, and such unauthorized substances are not allowed to be used for the manufacture and processing of plastic food contact products.

■ No. 3: Metal food contact products (13.95%)

Analysis: The main reasons for the unqualified metal products are that the manufacturers of metal products use inferior metal raw materials or recycled scrap metal materials; In the process of manufacturing metal products, the operation is not standardized, the process is immature and unstable.

3. Analysis of the Countries for the notification

4. There were 43 cases reported in this period, among which 31 cases were reported about products from China, accounting for 72.09%. In terms of countries that issued notifications, there were 15 countries in this quarter. Among them, Italy and France initiated notification with 7 cases, accounting for 32.56% of the total notification, followed by Ireland with 5 cases, accounting for 11.63% of the total notification.

Figure 3 Product notification to China

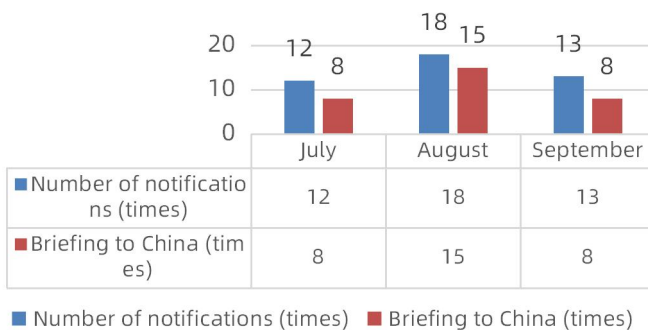
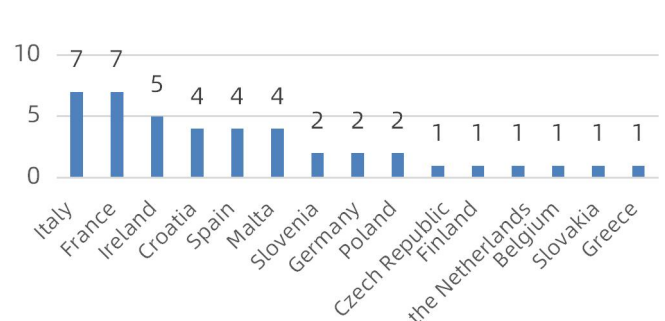


Figure 4 Number of notifications by countries





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Appendix: The relevant limit requirements of the notification of chemical risk :

Items	Law/Standard /Command	Limits	Material/Products
Migration of primary aromatic amines	(EU)No 10/2011 and its amendments	Not detected	Plastic product (nylon)
Phthalate migration	(EU)No 10/2011 and its amendments	DBP: 0.12mg/kg; BBP: 6mg/kg; DEHP: 0.6mg/kg; DINP+DIDP: 1.8mg/kg; Sum(DBP+DIBP+BBP+DEHP)(calculated by DEHP): 0.6mg/kg; DAP: N.D.	Plastic product
Adipic acid,bis(2-ethylhexyl) ester migration	(EU)No 10/2011 and its amendments	18mg/kg	Plastic product
Unauthorised use of substances	(EU)No 10/2011 and relevant requirements of member states	disable	Products containing plant fiber
Migration of formaldehyde	(EU)No 10/2011 and relevant requirements of member states,(EU)No 284/2011	15mg/kg	Bamboo fibreproduct, Plastic product (melamine & other)
Migration of melamine		2.5mg/kg	
Overall migration	(EU)No 10/2011 and relevant requirements of member states	60mg/kg or 10mg/dm ²	Plastic product
Overall migration	Decree of 21 March 1973 and Ministry of health Decree 195 of 6 August 2015 Decree No. 72 of May 9, 2019	8mg/dm ²	Metal food contact products (oven metal frame, baking pan)
Nickel		0.1mg/kg	
Chromium,			
Manganese			
Content of volatile constituents	BfR Recommendation XV	0.5%	Silicone products

Referenced Websites:

- <https://webgate.ec.europa.eu/rasff-window/portal/?event=SearchForm&cleanSearch=1>



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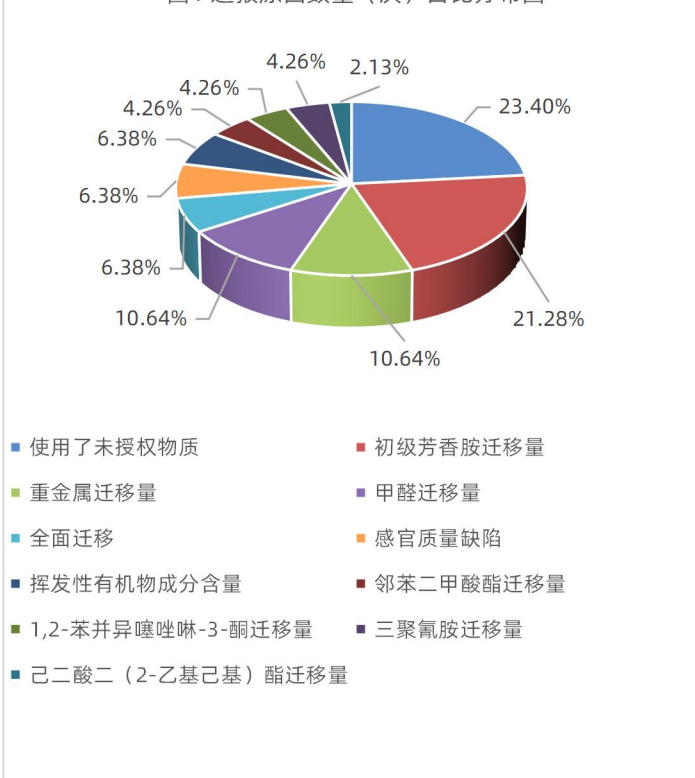
食品安全离不开食品接触材料的安全。随着科技的发展，食品接触材料的种类日益增多，由此引发的安全问题也不断出现。欧盟对各类食品接触材料都有严格的法规进行管控，并建立了一定的预警通报机制，对于不符合法规要求的产品采取相应的处罚措施。

本期汇总了2023年第3季度来自欧盟食品和饲料类快速预警系统（RASFF）的食品接触材料通报信息，共计43例，其中31例针对中国产品，包括5例针对香港产品，分析如下：

1. 通报原因分析

本期通报的原因主要分为有害化学风险、使用未授权物质和程序文件三类。其中，由使用未授权物质引起的通报最多，共11次，占23.40%；其次是初级芳香胺迁移量超标，共10次，占21.28%。详见图1。

图1 通报原因数量（次）占比分布图



◆ 通报原因“排行榜”

■ No. 1: 使用了未授权物质（占比均为23.40%）

风险分析： 主要通报产品为混入了未授权物质的塑料制品，常见未授权物质有竹纤维、麦秸、咖啡渣和果壳等。欧盟食品接触塑料法规(EU)No 10/2011，该法规列出了授权使用的物质清单，物质包括：单体；添加剂；聚合物生产助剂（不包括溶剂）；从微生物发酵中获得的大分子。竹子、玉米、秸秆、甘蔗等禾本植物均不在此授权材质清单内，不可使用该类未授权物质进行塑料食品接触用品的制造和加工。

■ No. 2: 初级芳香胺迁移量超标（占比21.28%）

风险分析： 食品接触材质中存在单体残留物（如尼龙制品）或特定的添加剂（如偶氮色粉）都可能产生初级芳香胺。欧盟塑料新法规（EU）No. 2020/1245中初级芳香胺的检出限下降到0.002mg/kg，导致上述高风险材质容易出现不合格情况。

■ No. 3: 重金属迁移量超标&甲醛迁移量超标（均占比为10.64%）

风险分析： 重金属迁移量超标主要通报产品为金属制品和搪瓷制品。这些产品原材料主要来源于矿物。劣质矿物原料可能含有大量有害重金属物质。其次，加工工艺不达标也可能导致产品中重金属容易溶出。甲醛迁移量超标主要召回产品为密胺餐具，密胺树脂主要由三聚氰胺和甲醛单体聚合而成，劣质的密胺材料会释放出大量游离的甲醛和三聚氰胺单体。

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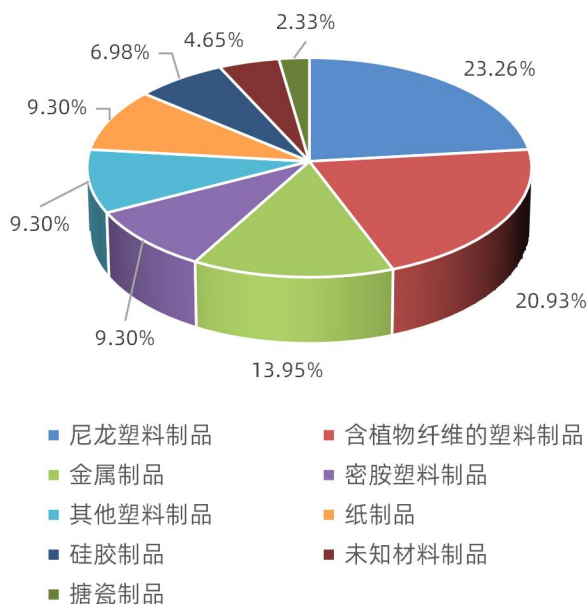
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2. 通报产品分析

图2 通报产品类型分布图



◆ 通报制品“排行榜”

■ No. 1: 尼龙塑料制品 (占比23.26%)

风险分析: 聚酰胺俗称尼龙 (Nylon), 英文名称Polyamide (简称PA), 是分子主链上含有重复酰胺基团-[NHCO]-的热塑性树脂总称, 包括脂肪族PA, 脂肪-芳香族PA和芳香族PA。尼龙聚合单体是初级芳香胺最常见的来源, 因此尼龙塑料制品被通报的原因主要是初级芳香胺迁移量超标。

■ No. 2: 含植物纤维的塑料制品 (占比20.93%)

风险分析: 含植物纤维的塑料制品, 顾名思义, 添加了植物纤维的塑料制品, 此类产品往往有更好的可降解性能。竹子、玉米、秸秆、甘蔗等禾本植物均不在欧盟食品接触塑料的授权材质清单内, 不可使用该类未授权物质进行塑料食品接触用品的制造和加工。

■ No. 3: 金属制品 (占比13.95%)

风险分析: 金属制品不合格原因主要为, 金属制品的生产企业使用了劣质的金属原料或回收的废金属材料; 在制造金属产品过程中, 操作不规范, 工艺不成熟、不稳定等。

3. 通报国家分析

本期通报案例共计43例, 其中, 来自中国的产品被通报案例共31例, 占比为72.09%。发布通报的国家方面, 本季度共有15个国家。其中, 最多的是意大利和法国, 均发起通报7例, 共占通报总数的32.56%, 其次是爱尔兰, 发起通报5例, 占通报总数的11.63%。

图3 对华产品通报情况

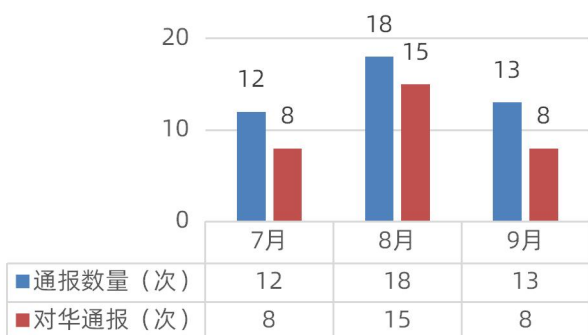
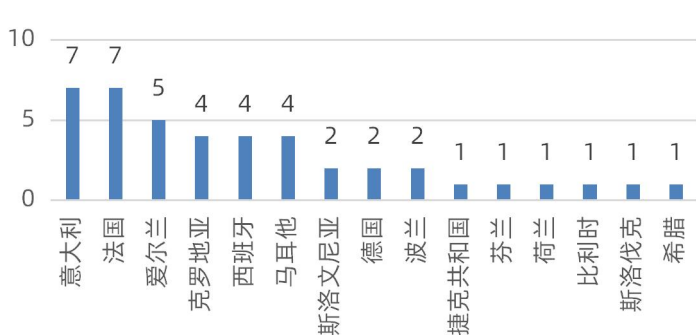


图4 各国通报数量



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附录：通报化学项目中需注意相关限值要求：

项目名称	法规/标准/指令	限值	材料/产品
初级芳香胺迁移量	(EU)No 10/2011及其修订案	未检出	塑料制品（尼龙制品）
邻苯二甲酸酯迁移量	(EU)No 10/2011及其修订案	DBP: 0.12mg/kg; BBP: 6mg/kg; DEHP: 0.6mg/kg; DINP+DIDP:1.8mg/kg; 总和（DBP+DIBP+BBP+DEHP） （以DEHP当量计）:0.6mg/kg; DAP:N.D.	塑料制品
己二酸双（2-乙基己基）酯迁移量	(EU)No 10/2011及其修订案	18mg/kg	塑料制品
未授权物质	(EU)No 10/2011及成员国相关要求	禁用	含植物纤维制品
甲醛迁移量	(EU)No 10/2011及其修订案；	15mg/kg	含竹纤维制品、 塑料制品(密胺&其他)
三聚氰胺迁移量	(EU)No 284/2011	2.5mg/kg	
全面迁移量	(EU)No 10/2011及其修订案	60mg/kg or 10mg/dm ²	塑料制品
全面迁移量	Decree of 21 March 1973 and Ministry of health Decree 195 of 6 August 2015 Decree No. 72 of May 9, 2019	8mg/dm ²	金属制品 (烤箱金属架、烤盘)
镍		0.1mg/kg	
铬			
锰			
挥发性化合物	BfR Recommendation XV	0.5%	硅胶制品

·参考网站：

- <https://webgate.ec.europa.eu/rasff-window/portal/?event=SearchForm&cleanSearch=1>

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