



Food Contact Material Recall Notifications-2024Report03

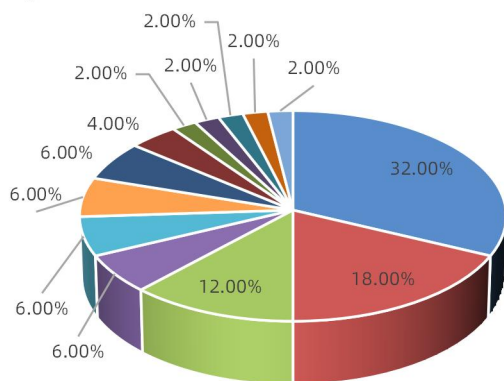
Food safety is closely related to the safety of food contact materials. Scientific and technological progress has increased the types of food contact materials, and also brought new safety problems. At present, the EU has implemented strict regulations on food contact materials, and established an early warning and notification mechanism. For illegal products, the EU will impose corresponding penalties.

In this issue, the notification information of food contact materials from the EU Rapid Warning System for Food and Feed (RASFF) in the third quarter of 2024 is summarized, with a total of 46 cases, of which 33 cases are aimed at China products, and the analysis is as follows:

1. Analysis of the reason for the notification

The reasons for this bulletin mainly fall into three categories: excessive migration of harmful chemicals, sensory quality defects and the use of unauthorized substances or recycling processes. In this quarter, the notification caused by the migration of harmful chemicals exceeded the standard accounted for the vast majority. Specifically, the number of notifications of excessive migration of metal elements is the highest, totaling 16 times, accounting for 32.00%; Followed by the migration of primary aromatic amines exceeded the standard for 9 times, accounting for 18.00%. See Figure 1 for details.

Figure1 Distribution chart of notification reasons



- The migration of metal elements exceeds the standard
- The migration of primary aromatic amines exceeds the standard
- The migration of melamine and formaldehyde exceeded the standard
- The migration of bisphenol A exceeds the standard
- Overall migration exceeds the standard
- Sensory quality defect
- Unauthorized substances are used in plastic products
- MOAH&MOSH migration exceeds the standard
- Unauthorized recycling technology is used to produce recycled polypropylene food contact materials
- Volatile organic compounds exceed the standard
- The migration of phthalate esters exceeds the standard
- The migration amount of photoinitiator exceeds the standard
- Lack of conformity declaration and test

◆ Reason for notification "ranking list"

■ No. 1: The migration of metal elements exceeds the standard (32.00%)

Analysis: In this bulletin, the problem of excessive migration of metal elements in glass, ceramic products and metal products is more prominent. Excessive migration of metal elements in food contact materials and products may pose great risks to human health. For example, excessive migration of aluminum may affect human nervous system and bone health; Excessive migration of cadmium may pose a serious threat to human health, including kidney damage, bone diseases and increased cancer risk. Excessive lead migration may lead to mental retardation, behavioral problems and kidney damage in children; Excessive migration of arsenic may cause skin lesions, cardiovascular diseases and increase the risk of some cancers. In order to protect consumers' health, the European Union has adopted a series of regulations and standards to strictly limit the migration of metal elements in different food contact materials.

■ No. 2: The migration of primary aromatic amines exceeds the standard (18.00%)

Analysis: In this bulletin, the migration of primary aromatic amines in nylon plastic products exceeds the standard. Primary aromatic amines are organic compounds containing aromatic rings and amino groups, which are toxic and carcinogenic. They can enter the human body through the skin, gastrointestinal tract and respiratory tract, causing changes in cell function and structure. Long-term exposure may cause nausea, cough, headache, vomiting, insomnia, hemolytic anemia and other symptoms, and in severe cases, it may cause ureteral cancer, renal cancer, bladder cancer and so on. EU plastic regulation EU 10/2011 has clear requirements on the migration of primary aromatic amines in plastic materials and products to ensure food safety and human health.

■ No. 3: The migration of melamine and formaldehyde exceeded the standard (12.00%)

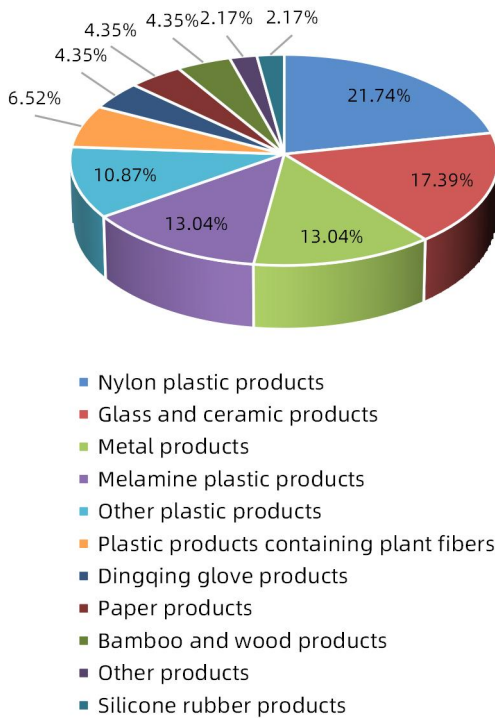
Analysis: In this bulletin, the migration of melamine and formaldehyde in melamine plastic products exceeded the standard. Long-term intake of melamine can damage the urinary system, cause stones, and even induce bladder cancer in severe cases. Formaldehyde is a carcinogen, and long-term exposure may cause nasopharyngeal carcinoma, lymphoma and leukemia. Melamine plastic is mainly made of high-purity melamine resin, which is formed by high-temperature curing of melamine and formaldehyde. Unqualified melamine tableware may release harmful substances such as melamine and formaldehyde due to improper production control or raw material problems, which may affect health.



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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 plastic products (21.74%)

Analysis: In this bulletin, nylon plastic products were notified for 10 times, of which the country of origin of 8 times was China, and the main reason for the notification was that the migration of primary aromatic amines exceeded the standard. Nylon, also known as polyamide, is a thermoplastic resin, and its molecular backbone contains repeated amide groups. Nylon family includes aliphatic polyamide (PA), aliphatic-aromatic PA and aromatic PA. Because the polymerized monomer of nylon is an important raw material for the synthesis of primary aromatic amines, nylon plastic products are particularly prone to the risk of excessive migration of primary aromatic amines.

No. 2: Glass and ceramic products (17.39%)

Analysis: In this bulletin, glass and ceramic products were notified 8 times in total, and the country of origin of the products involved in 5 times was China. The main reason why glass and ceramic products are reported is that the migration of metal elements exceeds the standard. The main reasons for heavy metals such as lead and cadmium exceeding the standard include: high content of heavy metals in raw materials, addition of fluxing lead in glaze, heavy metals in pigments, inappropriate firing temperature and glaze defects leading to heavy metal migration. The interaction of these factors may lead to the migration of heavy metals in glass and ceramic products exceeding the relevant safety standards of food contact materials in the European Union.

No. 3: Metal products & Melamine plastic products (Each accounting for 13.04%)

Analysis: In this bulletin, metal products were notified for 6 times, of which the country of origin of the products involved in 5 times was China, and the main reason for the notification was that the migration of metal elements exceeded the standard. Melamine plastic products have also been notified for 6 times, among which the country of origin of the products involved in 6 times is China, and the main reason for the notification is that the migration of melamine and formaldehyde exceeds the standard.

3. Analysis of the Countries for the notification

There were 46 cases reported in this period, among which 33 cases were reported about products from China, accounting for 71.74%. In terms of countries that issued notifications, there were 16 countries in this quarter. Among them, France initiated notification with 7 cases, accounting for 15.22% of the total number of notifications, followed by Italy with 6 cases, accounting for 13.04% of the total number of notifications.

Figure 3 Notification of Chinese products

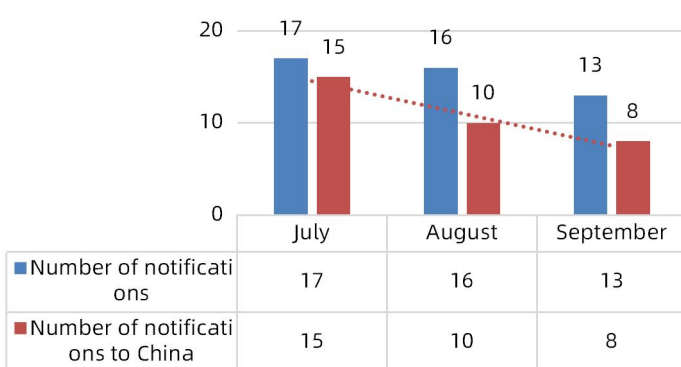
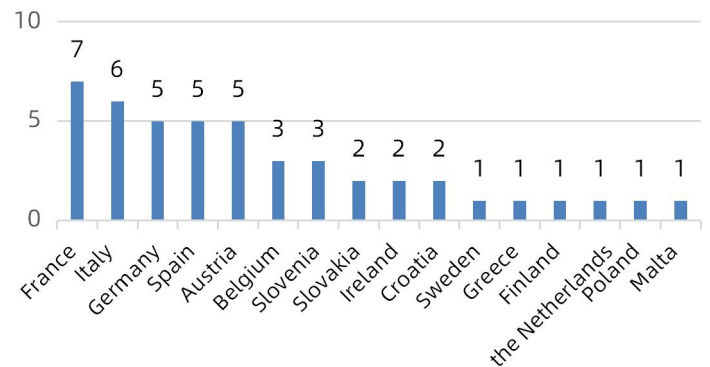


Figure 4 Number of notifications by countries





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

Items	Law/Standard /Command	Limits	Material/Products
Overall migration	(EU)No 10/2011 and its amendments	10mg/dm ² or 60mg/kg	Plastic products
Specific migration of 19 metals		See the regulatory requirements for details	
Specific migration of primary aromatic amines		Not be detected	
Specific migration of phthalates		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.	
Use of unauthorized substances	(EU)No 10/2011 and relevant requirements of member states	Disable	Plastic products containing plant fibers
Specific migration of formaldehyde	(EU)No 10/2011 and its amendments (EU)No 284/2011	15mg/kg	Melamine plastic products
Specific migration of melamine		2.5mg/kg	
Lead	84/500/EEC 2005/31/EC	See the regulatory requirements for details	Ceramic and glass products
Cadmium			
Arsenic	Fiche MCDA N°2 (V01-01/05/2016)	Not be detected	Ceramic, glass and enamel products
Aluminium		1mg/kg	
Cobalt		0.02mg/kg	
Volatile substance content	BfR Recommendation XV	0.5%	Silicone rubber products
MOAH	Arrêté du 13 avril 2022	10000 ppm	Packaging and Printing
MOSH		1000 ppm	
1-Hydroxycyclohexyl phenyl ketone	Fiche MCDA n°4 (V02 - 01/01/2019) 947-19-3	Not be detected (DL =0.01mg/kg)	Paper and paperboard products
Lead		0.01mg/kg	

Referenced Websites:

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

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食品接触材料召回通报预警-2024年第3期

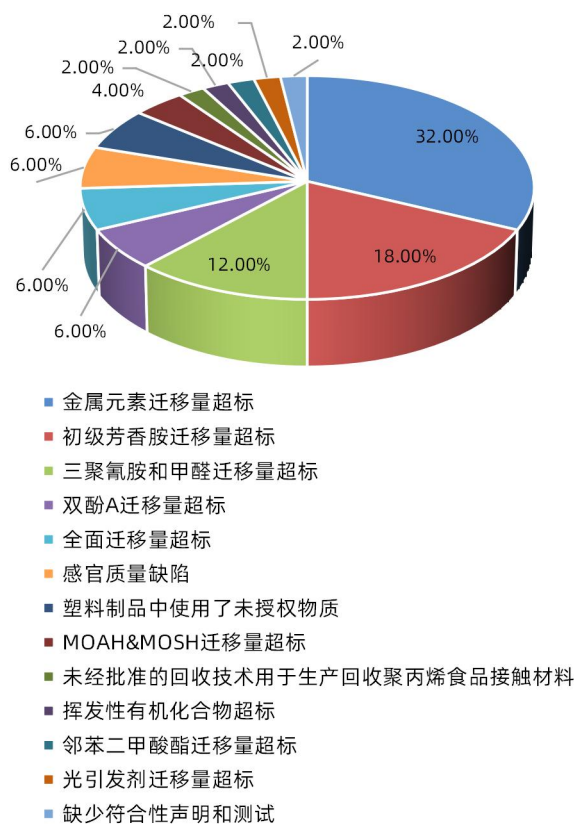
食品安全紧密联系着食品接触材料的安全性。科技进步使得食品接触材料种类增多，也带来了新的安全问题。目前，欧盟对食品接触材料实行严格法规，并建立了预警和通报机制。对于违规产品，欧盟将实施相应处罚。

本期汇总了2024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46例，其中33例针对中国产品，分析如下：

1. 通报原因分析

本期通报的原因主要归结为三大类：有害化学物质迁移超标、感官质量缺陷和使用未授权物质或回收工艺。在本季度中，有害化学物质迁移超标所引起的通报占据了绝大多数。具体而言，金属元素迁移量超标的通报数量最高，共计16次，占比32.00%；紧随其后的是初级芳香胺迁移量超标，共9次，占比18.00%。详见图1。

图1 通报原因次数占比分布图



◆ 通报原因“排行榜”

■ No. 1: 金属元素迁移量超标 (占比32.00%)

风险分析：本期通报中，玻璃、陶瓷制品和金属制品中的金属元素迁移量超标问题较为突出。食品接触材料及制品中的金属元素迁移量超标对人体健康可能构成重大风险。例如，铝元素迁移量超标可能影响人体神经系统和骨骼健康；镉元素迁移量超标可能对人体健康造成严重威胁，包括肾脏损伤、骨骼疾病、增加患癌风险等；铅元素迁移量超标可能导致儿童智力低下、行为问题及肾脏损伤；砷元素迁移量超标可能引发皮肤病变、心血管疾病，并增加某些癌症的风险。为了保护消费者健康，欧盟已通过一系列法规和标准，对不同食品接触材料中的金属元素迁移量进行了严格限制。

■ No. 2: 初级芳香胺迁移量超标 (占比18.00%)

风险分析：本期通报中，尼龙塑料制品中初级芳香胺迁移量超标问题突出，初级芳香胺是含有芳环和氨基的有机化合物，具有毒性和致癌性。它们可通过皮肤、胃肠道和呼吸道进入人体，引起细胞功能和结构变化，长期暴露可能引发恶心、咳嗽、头痛、呕吐、失眠、溶血性贫血等症状，严重时可能导致输尿管癌、肾癌、膀胱癌等。欧盟塑料法规EU 10/2011对塑料材料和制品中初级芳香胺迁移量有明确要求，以确保食品安全和人体健康。

■ No. 3: 三聚氰胺和甲醛迁移量超标 (占比12.00%)

风险分析：本期通报中，密胺塑料制品中三聚氰胺和甲醛迁移量超标问题显著。三聚氰胺长期摄入可损害泌尿系统，引发结石，严重时甚至诱发膀胱癌。甲醛是致癌物质，长期接触可能引发鼻咽癌、淋巴瘤、白血病等。密胺塑料主要由高纯度密胺树脂制成，该树脂由三聚氰胺和甲醛高温固化形成。不合格密胺餐具可能因生产控制不当或原料问题释放三聚氰胺和甲醛有害物质，影响健康。

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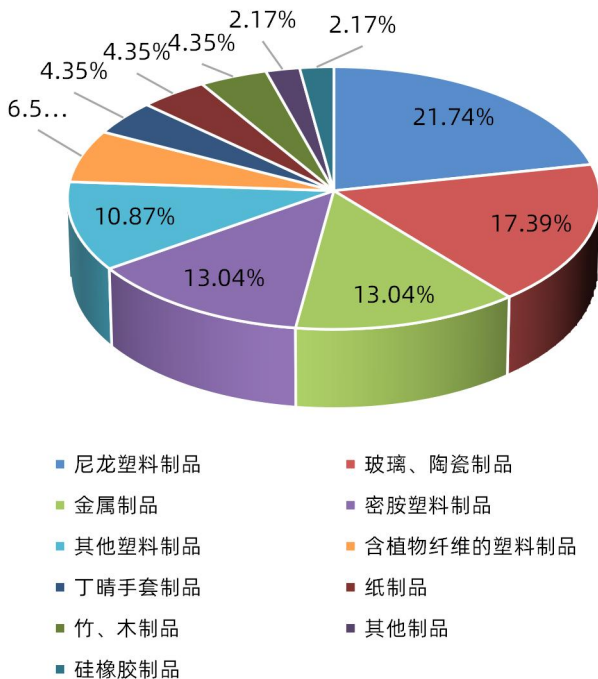
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2. 通报产品分析

图2 通报产品类型分布图



◆ 通报产品类型“排行榜”

■ No. 1: 尼龙塑料制品 (占比21.74%)

风险分析: 本期通报中, 尼龙塑料制品共被通报10次, 其中8次的产品原产国为中国, 通报的原因主要为初级芳香胺迁移量超标。尼龙, 也称为聚酰胺, 是一种热塑性树脂, 其分子主链含有重复的酰胺基团。尼龙家族包括脂肪族聚酰胺 (PA)、脂肪-芳香族PA和芳香族PA等多种类型。由于尼龙的聚合单体是合成初级芳香胺的重要原料, 因此尼龙塑料制品特别容易存在初级芳香胺迁移量超标的风险。

■ No. 2: 玻璃、陶瓷制品 (占比17.39%)

风险分析: 本期通报中, 玻璃和陶瓷制品共被通报8次, 其中5次涉及的产品原产国为中国。玻璃和陶瓷制品被通报的主要原因是金属元素迁移量超标。铅、镉等重金属超标的主要原因包括: 原料中重金属含量过高、釉料中添加了助熔的铅、颜料中含有重金属、烧制温度不适宜以及釉面缺陷导致重金属迁移。这些因素相互作用, 可能导致玻璃和陶瓷制品中的重金属迁移量超出欧盟食品接触材料的相关安全标准。

■ No. 3: 金属制品&密胺塑料制品 (各占比13.04%)

风险分析: 本期通报中, 金属制品共被通报6次, 其中5次涉及的产品原产国为中国, 通报的主要原因是金属元素迁移量超标。密胺塑料制品也被通报6次, 其中6次涉及的产品原产国为中国, 通报的主要原因是三聚氰胺和甲醛迁移量超标。

3. 通报国家分析

本期通报案例共计46例, 其中, 来自中国的产品被通报案例共33例, 占比为71.74%。发布通报的国家方面, 本季度共有16个国家。其中, 最多的是法国, 发起通报7例, 占通报总数的15.22%, 其次是意大利, 发起通报6例, 占通报总数的13.04%。

图3 对华产品通报情况

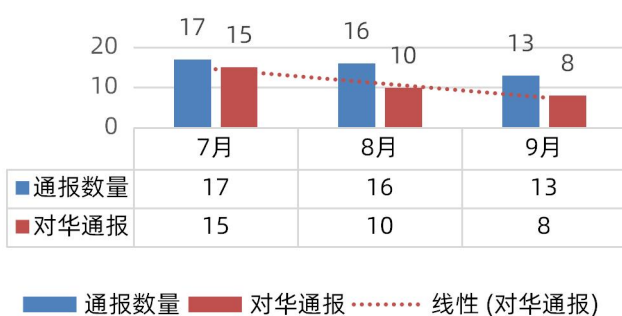
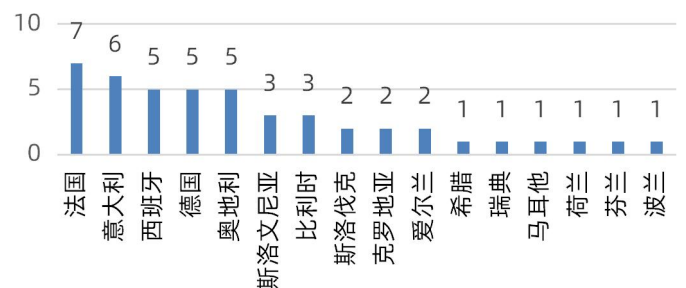


图4 各国通报数量



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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
全面迁移量	(EU)No 10/2011及其修订案	10mg/dm ² or 60mg/kg	塑料制品
金属迁移量19项		详见法规要求	
初级芳香胺迁移量		不得检出	
邻苯二甲酸酯迁移量		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.	
未授权物质	(EU)No 10/2011及成员国相关要求	禁用	含植物纤维塑料制品
甲醛迁移量	(EU)No 10/2011及其修订案; (EU)No 284/2011	15mg/kg	密胺塑料制品
三聚氰胺迁移量		2.5mg/kg	
铅	84/500/EEC	详见法规要求	陶瓷、玻璃制品
镉	2005/31/EC		
砷	Fiche MCDA N°2 (V01-01/05/2016)	不得检出	陶瓷、玻璃及搪瓷制品
铝		1mg/kg	
钴		0.02mg/kg	
挥发性化合物	BfR Recommendation XV	0.5%	硅橡胶制品
MOAH	Arrêté du 13 avril 2022	10000 ppm	包装和印刷
MOSH		1000 ppm	
1-羟基环己基(苯基)酮	Fiche MCDA n°4 (V02 - 01/01/2019) 947-19-3	不得检出 (检出限=0.01mg/kg)	纸和纸板制品
铅		0.01mg/kg	

·参考网站:

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

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