



Food Contact Material Recall Notifications - 2023report 4

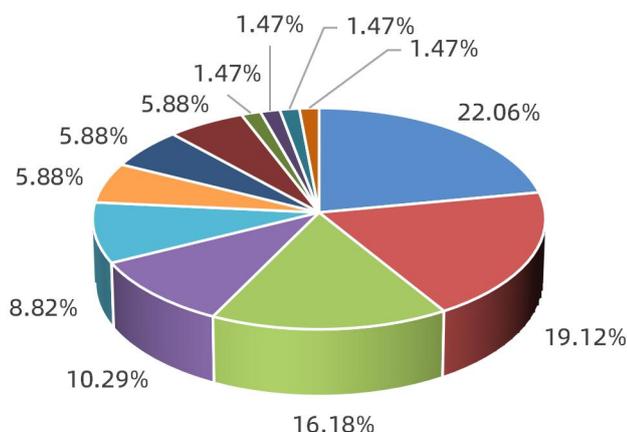
Food safety is closely related to the safety of food contact materials. With the progress of science and technology, the types of food contact materials are increasing, which also leads to frequent safety problems. The EU has strict laws and regulations on all kinds of food contact materials, and has established a set of early warning notification mechanism. For products that do not meet the regulatory requirements, the EU will take corresponding punishment measures.

In this issue, the notification information of food contact materials from the EU Rapid Warning System for Food and Feed (RASFF) in the fourth quarter of 2023 was summarized, with a total of 61 cases, of which 42 cases were 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 three categories: harmful chemical risks, use of unauthorized substances and program documents. Among them, the notification caused by excessive migration of heavy metals was the most, with 15 times in total, accounting for 22.06%; Followed by the use of unauthorized substances, a total of 13 times, accounting for 19.12%. See Figure 1 for details.

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



- Heavy metal migration
- The use of unauthorized substances
- Primary aromatic amines migration
- Phthalate migration
- Volatile organic matter
- Overall migration
- Sensory quality defect
- Migration amount of photoinitiator
- Formaldehyde migration
- MOSH and MOAH migration
- Lack of conformity declaration and test
- False propaganda

◆ Reason for notification "ranking list"

■ No. 1: Excessive migration of heavy metals (22.06%)

Analysis: Metal products, ceramics and glass products are mainly notified when the heavy metal migration exceeds the standard. The raw materials of these products mainly come from minerals, and inferior mineral raw materials may contain high concentrations of harmful heavy metals. In addition, if the processing technology is not up to standard, it may also lead to the easy dissolution of heavy metals in the product. In metal products, ceramics and glass products, common heavy metals include lead, cadmium and mercury. When these heavy metals accumulate in the human body to a certain extent, they will cause serious harm to human health. For example, lead poisoning may cause damage to the nervous system and affect children's intellectual development; Cadmium poisoning may cause kidney damage and osteoporosis. Therefore, it is very important to strictly control the migration of heavy metals in metals, ceramics and glass products.

■ No. 2: Unauthorized substances were used (19.12%)

Analysis: The main notified 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 lists the authorized substances, including monomers, additives, polymer production AIDS (excluding solvents) and macromolecules obtained from microbial fermentation. However, grasses such as bamboo, corn, straw and sugarcane are not included in the list of authorized materials, so these unauthorized substances cannot be used to manufacture and process plastic food contact products.

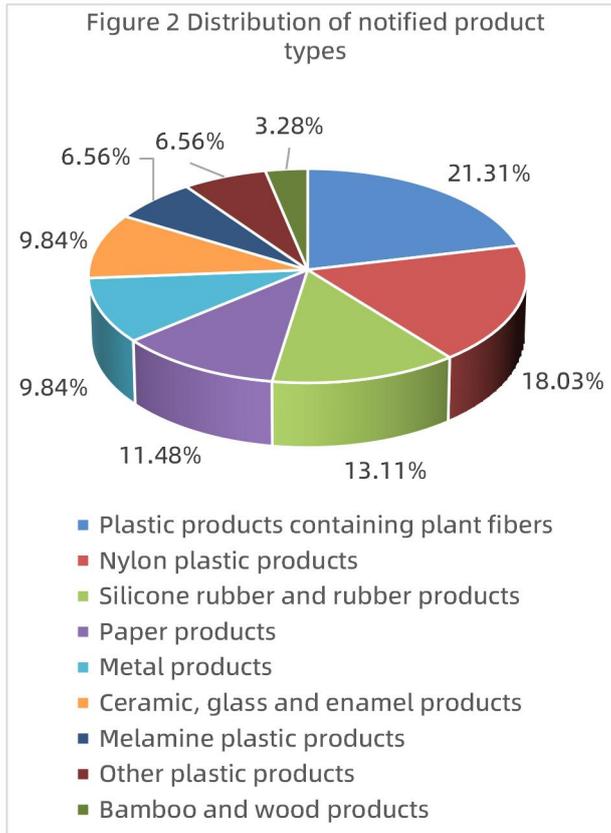
■ No. 3: Migration of primary aromatic amines (16.18%)

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 new EU Plastics Regulation (EU)No. 2020/1245 reduces the detection limit of primary aromatic amines to 0.002mg/kg, which leads to the high-risk materials being more prone to unqualified.



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2. Analysis of the Products for the notification



◆ Materials and products for notification"ranking list"

■ No. 1: Plastic products containing plant fibers (21.31%)

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. 2: Nylon product (18.03%)

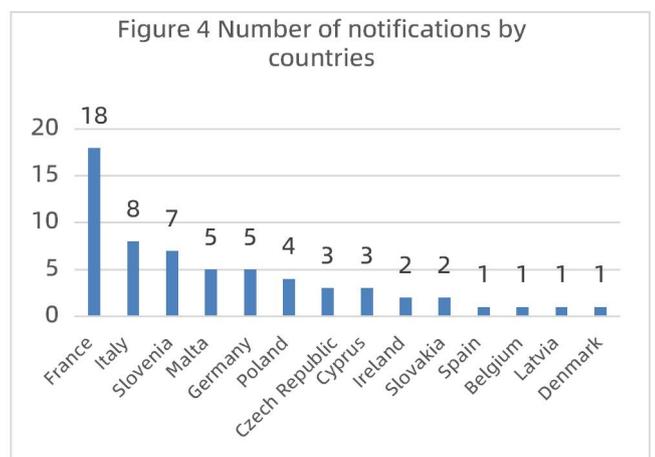
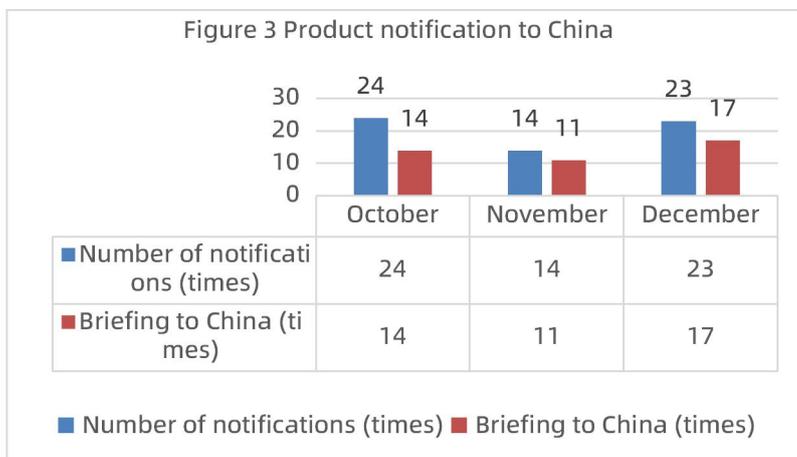
Analysis : Polyamide is commonly known as Nylon, and its English name is Polyamide (PA for short), which is the general name of thermoplastic resin with repeated amide group -[NHCO]- in the molecular main chain, including aliphatic PA, aliphatic-aromatic PA and aromatic PA. Nylon polymerization monomer 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. 3: Silicone rubber, rubber products (13.11%)

Analysis : The silicone rubber and rubber products notified by RASFF are mainly silicone rubber and rubber kitchen utensils. Silica gel and rubber kitchenware are made of food-grade silica gel and rubber by molding or encapsulating. The main reason for the notification is that the volatile substances in silica gel kitchen utensils exceed the standard, and the volatile substances in silica gel products

3. Analysis of the Countries for the notification

There were 61 cases reported in this period, among which 42 cases were reported about products from China, accounting for 68.85%. In terms of countries that issued notifications, there were 14 countries in this quarter. Among them, France initiated notification with 18 cases, accounting for 29.51% of the total notification, followed by Italy with 8 cases, accounting for 13.11% of the total notification.





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

| Items | Law/Standard /Command | Limits | Material/Products |
|--------------------------------------|---|--|------------------------------------|
| Leaching amount of lead and cadmium | 84/500/EEC 2005/31/EC | Flat tableware, depth ≤25mm: Pb ≤0.8mg/dm ² and Cd ≤0.07mg/dm ² ; Other instruments that can be filled: Pb ≤4mg/L, Cd ≤0.3mg/L; Kitchen utensils/packages/containers with a volume of > 3l: Pb ≤1.5mg/L, Cd ≤ 0.1 mg/L. | Ceramic and glass products |
| 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 | Stainless steel products |
| Nickel | | 0.1mg/kg | |
| Chromium, | | | |
| Manganese | | | |
| Unauthorised use of substances | (EU)No 10/2011 and relevant requirements of member states | disable | Products containing plant fiber |
| 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 |
| Content of volatile constituents | BfR Recommendation XV | 0.5% | Silicone products |
| Overall migration | (EU)No 10/2011 and relevant requirements of member states | 60mg/kg or 10mg/dm ² | Plastic product |
| 1-hydroxy-cyclohexyl phenyl ketone | Fiche MCDA n°4 (V02 - 01/01/2019) 947-19-3 | Not detected (DL =0.01mg/kg) | Paper and paperboard products |
| Migration of formaldehyde | (EU)No 10/2011 and relevant requirements of member states | 15mg/kg | Plastic product (melamine & other) |
| MOAH | MOAH draft in Germany on restricting food contact with recycled paper products | 0.5 mg/kg (total MOAH in food) or 0.15 mg/kg (sum of MOAH in food simulants). | Paper and paperboard products |

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-2023年第4期

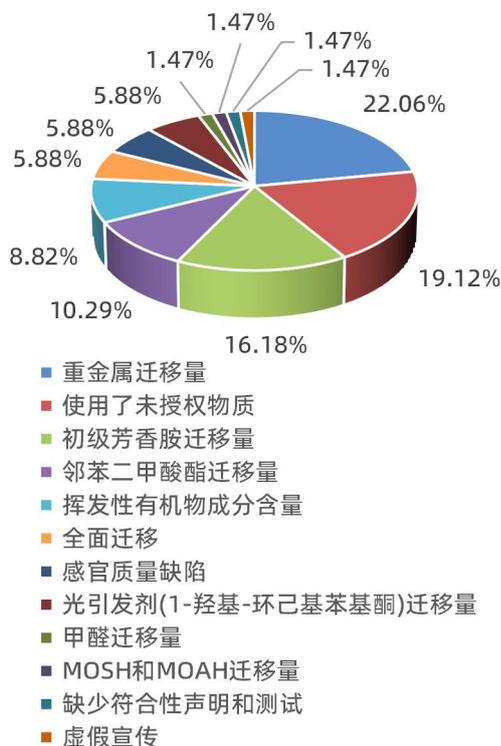
食品安全与食品接触材料的安全性密切相关。随着科技的进步，食品接触材料的种类不断增多，这也导致了安全问题的频繁出现。欧盟对各类食品接触材料都有严格的法规进行管理，并建立了一套预警通报机制。对于不符合法规要求的产品，欧盟会采取相应的处罚措施。

本期汇总了2023年第4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61例，其中42例针对中国产品，包括5例针对来自香港的产品，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，重金属迁移量超标引起的通报最多，共15次，占22.06%；其次是使用了未授权物质，共13次，占19.12%。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: 重金属迁移量超标（占比为22.06%）

风险分析：重金属迁移量超标主要通报的产品为金属制品、陶瓷和玻璃制品。这些产品的原材料主要来自矿物，而劣质的矿物原料可能含有高浓度的有害重金属物质。此外，如果加工工艺不达标，也可能导致产品中的重金属容易溶解出来。在金属制品和陶瓷、玻璃制品中，常见的重金属包括铅、镉、汞等。这些重金属在人体内积累到一定程度时，会对人体健康造成严重危害。例如，铅中毒可能导致神经系统受损，影响儿童智力发育；镉中毒则可能引起肾脏损伤和骨质疏松等问题。因此，对于金属和陶瓷、玻璃制品中的重金属迁移量进行严格控制非常重要。

■ No. 2: 使用了未授权物质（占比19.12%）

风险分析：主要通报的产品是混入了未授权物质的塑料制品，常见的未授权物质包括竹纤维、麦秸、咖啡渣和果壳等。欧盟食品接触塑料法规(EU) No 10/2011列出了授权使用的物质清单，其中包括单体、添加剂、聚合物生产助剂（不包括溶剂）以及从微生物发酵中获得的大分子。然而，禾本植物如竹子、玉米、秸秆和甘蔗等并未被列入该授权材质清单中，因此不能使用这些未授权物质来制造和加工塑料食品接触用品。

■ No. 3: 初级芳香胺迁移量超标（均占比为16.18%）

风险分析：食品接触材料中存在单体残留物（如尼龙制品）或特定的添加剂（如偶氮色粉）可能会产生初级芳香胺。欧盟塑料新法规（EU）No. 2020/1245将初级芳香胺的检出限降低到0.002mg/kg，这导致高风险材质更容易出现不合格情况。

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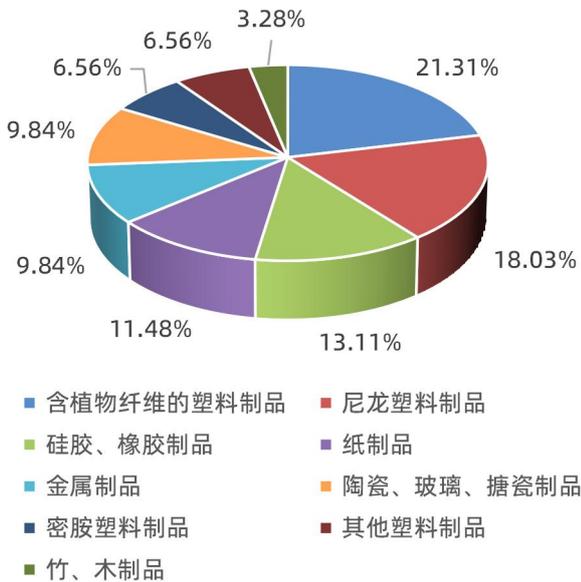
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图2 通报产品类型分布图



3. 通报国家分析

本期通报案例共计61例，其中，来自中国的产品被通报案例共42例，占比为68.85%。发布通报的国家方面，本季度共有14个国家。其中，最多的是法国，发起通报18例，共占通报总数的29.51%，其次是意大利，发起通报8例，占通报总数的13.11%。

图3 对华产品通报情况（次）

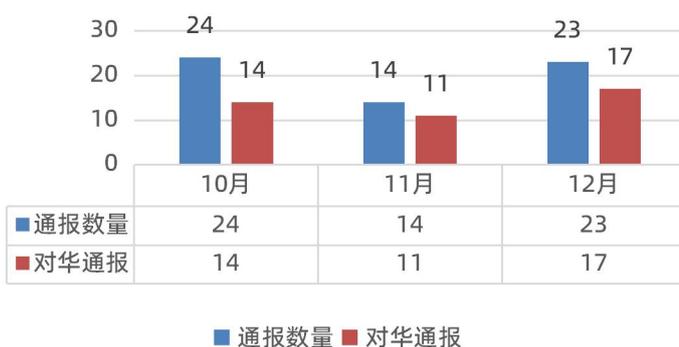
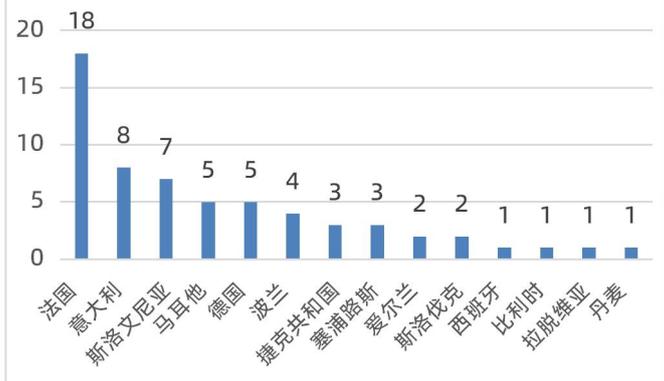


图4 各国通报数量



◆ 通报制品“排行榜”

■ No. 1: 含植物纤维的塑料制品 (占比21.31%)

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. 2: 尼龙塑料制品 (占比18.03%)

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. 3: 硅胶、橡胶制品 (占比13.11%)

风险分析: RASFF通报的硅胶、橡胶制品主要为硅胶、橡胶餐厨具。硅胶、橡胶餐厨具，是采用食品级硅胶、橡胶为原料，通过模压成型或者包胶配合制作而成。最主要的通报原因为硅胶餐厨具挥发性物质超标，硅胶制品的挥发性物质主要来源于在生产过程中会残留一些加工助剂。



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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 |
|------------------|--|---|-------------|
| 铅、镉溶出量 | 84/500/EEC 2005/31/EC | 扁平餐具，深度≤25mm： 铅≤0.8mg/dm ² ，镉≤0.07mg/dm ² ； 其他可被填充的器具： 铅≤4mg/L，镉≤0.3mg/L； 容积 > 3L的厨具/包装/容器： 铅≤1.5mg/L，镉≤0.1mg/L。 | 陶瓷、玻璃制品 |
| 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 | 不锈钢制品 |
| 镍 | | 0.1mg/kg | |
| 铬 | | | |
| 锰 | | | |
| 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 |
| 初级芳香胺迁移量 | (EU)No 10/2011及其修订案 | 不得检出 | 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 |
| 挥发性化合物 | BfR Recommendation XV | 0.5% | 硅胶制品 |
| 全面迁移量 | (EU)No 10/2011及其修订案 | 60mg/kg or 10mg/dm ² | 塑料制品 |
| 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 |
| 甲醛迁移量 | (EU)No 10/2011及其修订案 | 15mg/kg | 塑料制品(密胺&其他) |
| MOAH迁移量 | 德国有关限制食品接触再生纸质品中的 MOAH草案 | 0.5 mg/kg (食物中的 MOAH 总和) 或 0.15 mg/kg (食品模拟物中MOAH的总和) | 纸和纸板制品 |

·参考网站:

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

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