Food Contact Material Recall Notifications - 2022 report 1

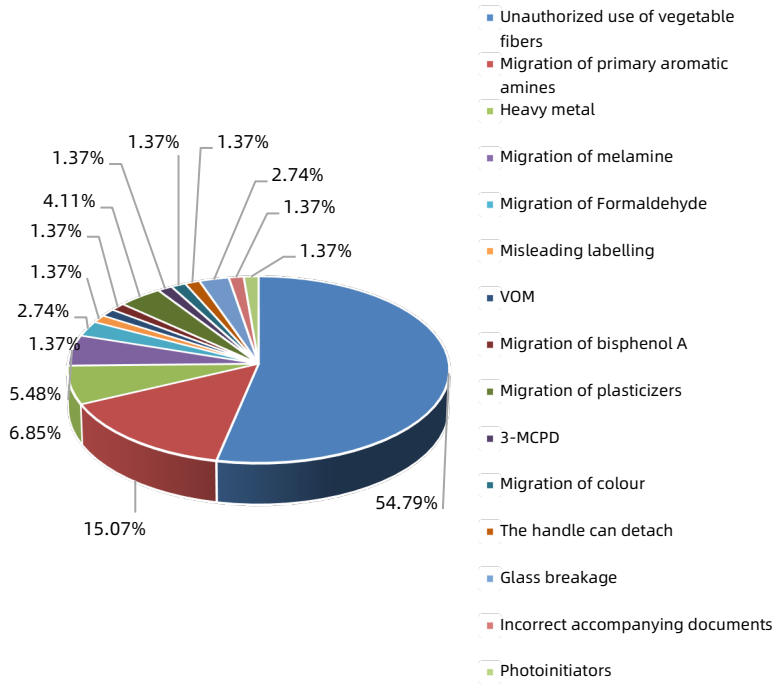
Food safety closely relates to food contact materials (FCM). With the development of FCM, kinds of safety problems accompany to appear too. Many countries lay down strict requirements to regulate FCM, such as EU, USA, Canada and Australia , and they also build a special warning systems to exchange information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

This report summarizes the notifications of food contact materials from the European Union, the United States, Canada and Australia in the first quarter of 2022. There were total 73 notifications in the first quarter of 2022 with **48 notifications from China**. The analysis is as follows:

1. Analysis of the reason for the notification

The reasons for the 73 notifications in the first quarter mainly included chemical risks, physical risks and other risks. Among these notifications, the largest number of notifications were caused by the use of unauthorized substances, a total of 40 times, accounting for about 54.79%.The second is chemical risk, in which the excessive migration of primary aromatic amines was notified the most, 11 times, accounting for 15.07%. See Figure 1 for details.

Figure 1 Distribution of the number of notification reasons (times) and their proportions



◆ Reason for notification "ranking list"

⚑ No. 1: Unauthorised use of substances (54.79%)

Analysis：In June 2020, the European Commission expert group issued a bamboo fiber research report, clarifying that (EU) NO 10/2011 does not permit the use of broken bamboo, bamboo powder, corn starch and other similar substances as additives in plastic materials and products. Therefore, a large number of bamboo fiber products have been recalled.

⚑ No. 2: Migration of primary aromatic amines (15.07%)

Analysis： The presence of additives (such as azo) or monomer residues (such as nylon products) in food contact materials may produce primary aromatic amines. After the (EU) No 2020/1245 was issued, the detection limit of 23 primary aromatic amines dropped to 0.002mg/kg, causing the above-mentioned high-risk materials to easily fail.

⚑ No. 3: Heavy metal (6.85%)

Analysis：The main notified products are ceramics, enamel and stainless steel cutting tools. These products usually contain trace harmful heavy metals, and inferior ceramics and metal products may release excessive harmful heavy metals (such as lead and cobalt) in the process of contacting food.

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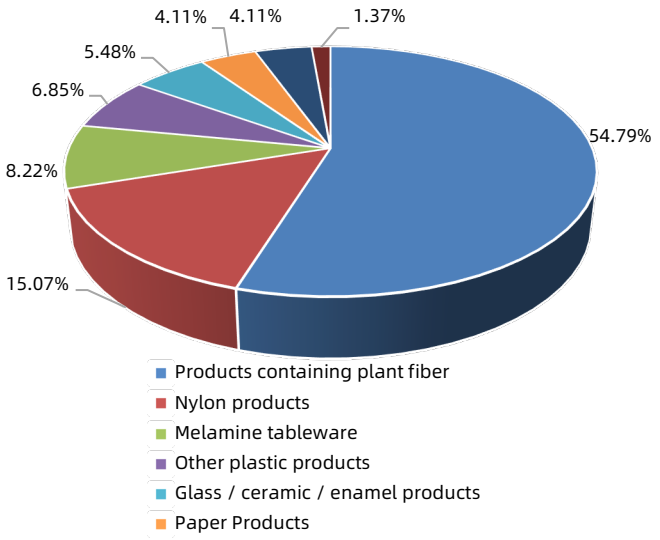
2. Analysis of the Material/Products for the notification

Figure 2 Distribution of notified materials and products



◆ **Materials and products for notification "ranking list"**

⚑ No. 1: Products containing plant fiber (54.79%)

Analysis: Products containting plant fiber are made of melamine, bamboo, corn starch and bamboo fiber. After the bamboo fiber research report was released in June 2020, most EU countries began to ban the import of products made of bamboo fiber and similar materials. Secondly, this kind of products usually contain a lot of melamine material, which is also easy to cause a large number of formaldehyde & melamine to move out.

⚑ No. 2: Nylon product (15.07%)

Analysis: Polyamide, commonly known as nylon, is a general term of thermoplastic resin containing repeated amide group - [nhco] - in the main chain of molecule, including aliphatic PA, aliphatic aromatic PA and aromatic PA. Nylon monomers are the most common source of primary aromatic amines.

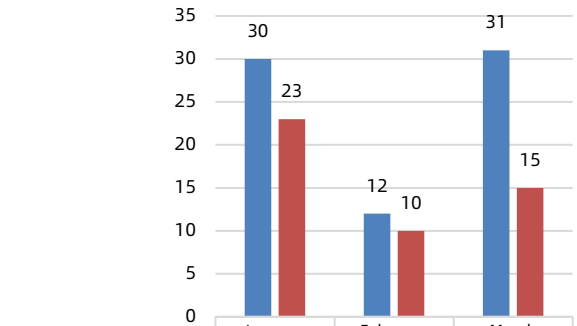
⚑ No. 3: Melamine tableware (8.22%)

Analysis: Melamine tableware belongs to high molecular polymer, abbreviated as MF, and its monomers are formaldehyde and melamine. If this kind of tableware is made of inferior melamine resin raw materials, it will increase the risk of melamine migration to food.

3. Analysis of the Countries for the notification

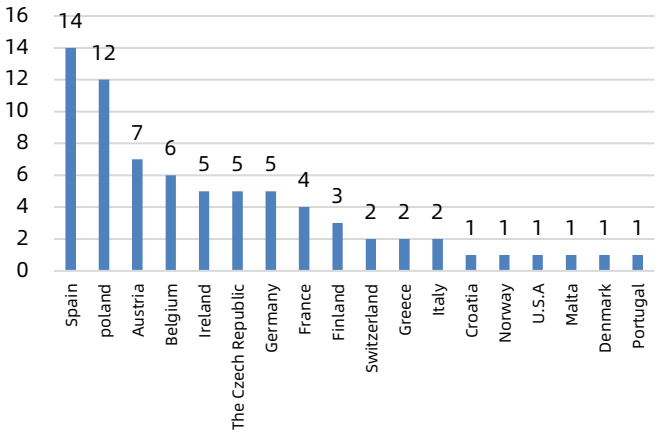
In the first quarter of 2022, there were 73 notifications of contact materials, of which 48 cases were notified in China, accounting for 65.75%. In terms of countries issuing notifications, there were 18 countries in the first quarter. Among them, Spain initiated 14 notifications, accounting for 19.18% of the total, followed by Poland, which initiated 12 notifications, accounting for 16.44% of the total. The number of notifications issued by other countries was less than 10. See Figure 3 & Figure 4 for details.

Figure 3 Notification of products to China



	January	February	March
Notifications	30	12	31
Notifications from China	23	10	15

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）
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,(EU)No 284/2011	15mg/kg	Bamboo fibre product, Plastic product（melamine & other）
migration of melamine	(EU)No 10/2011 and its amendments	2.5mg/kg	Bamboo fibre product, Plastic product（melamine）
Bisphenol A	(EU)No 10/2011 and its amendments	0.05mg/kg	Plastic product
Phthalates	(EU)No 10/2011 and its amendments	DEHP:1.5mg/kg	Plastic product
volatile organic constituents	BfR Recommendation XV	0.5%	Silicone product
Lead（Pb）	EDQM Technical Guide Resolution CM/Res(2020)9	not detected	Paper Products
3-MCPD	BfRXXXVI/1&BfRXXXVI/2	12μg/L	Paper Products
Chromium(Cr)	Decree of 21 March 1973 and Ministry of health	0.1mg/kg	Stainless Steel Products
Cobalt (Co)	DIN 51032	Flat tableware: 0.1mg/dm^2	Ceramics
Lead（Pb）		Flat tableware: 0.8mg/dm^2	

Referenced Websites:

- https://www.cpsc.gov/Recalls/?Page=1
- http://www.healthycanadians.gc.ca/recall-alert-rappel-avis/search-recherche/simple?s=&plain_text=&f_mc=4&js_en=&page=5&f_mc=4&f_sc=34
- https://webgate.ec.europa.eu/rasff-window/portal/?event=SearchForm&cleanSearch=1
- https://www.productsafety.gov.au/recalls

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食品接触材料召回通报预警—2022年第1期

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、美国、加拿大和澳大利亚等国家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。

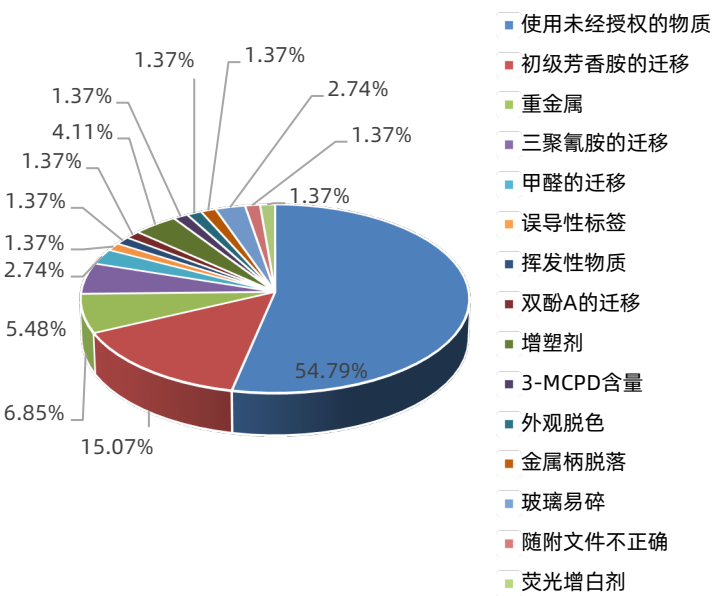
本期汇总了2022年第1季度来自欧盟、美国、加拿大和澳大利亚的食品接触材料通报信息，共计73例，**其中48例来自中国**，分析如下：

1. 通报原因分析

本期通报的原因主要分为化学风险、物理风险和其他风险三类。其中，由未经授权物质的使用引起的通报最多，共40次， 约占54.79%；其次是化学风险，其中初级芳香胺迁移量超标的通报最多，共11次，占15.07%。

详见图1。

图1 通报原因数量（次）及占比分布图



◆通报原因“排行榜”

⚑ No. 1：使用未经授权的物质（占比54.79%）

风险分析：2020年6月，欧委会专家组发布竹纤维研究报告，明确了（EU）NO 10/2011未许可碎竹、竹粉、玉米淀粉等类似物质作为添加剂在塑料材质及制品中使用。因此大量植物纤维的制品被召回。

⚑ No. 2: 初级芳香胺迁移量（占比15.07%）

风险分析：食品接触材质中存在特定的添加剂（如偶氮色粉）或单体残留物（如尼龙制品）都可能会产生初级芳香胺。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: 重金属不合格（占比均为6.85%）

风险分析：主要通报产品为陶瓷、搪瓷以及不锈钢刀具。这些产品通常含有微量的有害重金属，而劣质的陶瓷及金属制品在接触食物过程中可能释放出过量的有害重金属（如铅、钴）。

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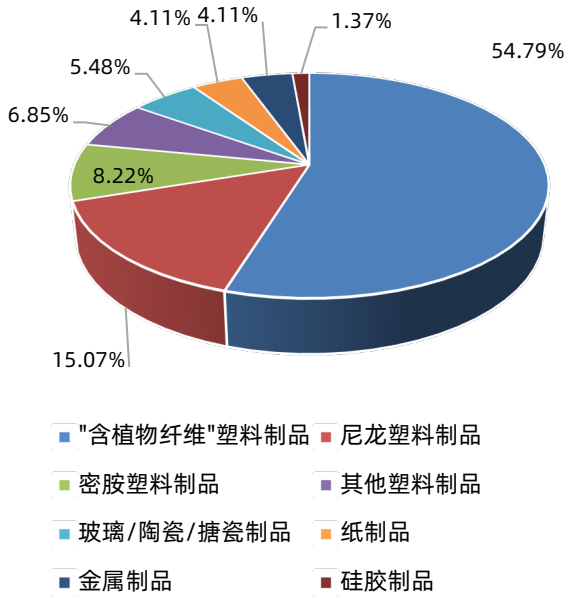
2. 通报产品分析

图2 通报材质及制品分布图



◆通报制品 “排行榜”

⚑ No. 1: “含植物纤维”塑料制品（占比54.79%）

风险分析：含植物纤维制品大多由密胺、竹子以及玉米淀粉和竹纤维混合材料制成。2020年6月竹纤维研究报告发布后，大多数欧盟国家开始禁止含有竹纤维及类似材质制成的产品进口。其次，这类产品通常含有大量的密胺材质，也容易导致甲醛迁移量和三聚氰胺迁移量超标。

⚑ No. 2: 尼龙塑料制品（占比15.07%）

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。

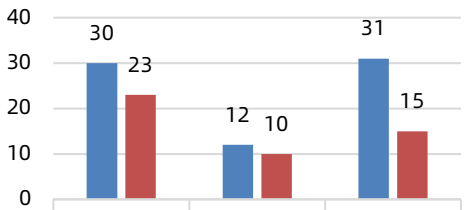
⚑ No. 3: 密胺塑料制品（占比8.22%）

风险分析：密胺餐具属于高分子聚合物，英文缩写为MF，其单体为甲醛和三聚氰胺。这类餐具如果使用劣质密胺树脂原料制作，则会增加三聚氰胺迁移至食品的风险。

3. 通报国家分析

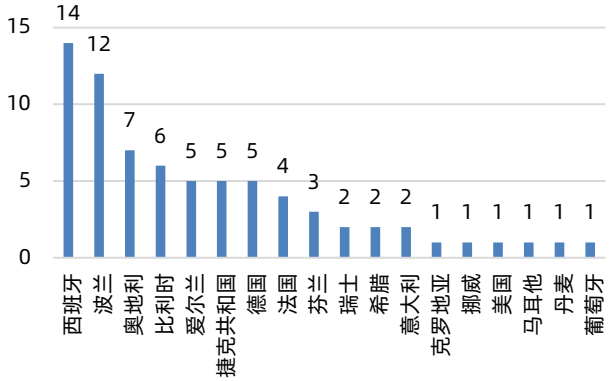
本期通报案例共计73例，其中，来自中国的产品被通报案例共48例，占比为65.75%。发布通报的国家方面，第一季度共有18个国家。其中，最多的是西班牙，共发起通报14例，占通报总数的19.18%，其次是波兰共发起通报12例，占通报总数的16.44%，其余国家发布通报数量均低于10次，详见图3&图4。

图3 对华产品通报情况



	1月	2月	3月
通报案例	30	12	31
对华通报案例	23	10	15

图4 各国通报数量



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食品接触材料召回通报预警—2022年第1期

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）
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,(EU)No 284/2011	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 10/2011及其修订案	2.5mg/kg	含竹纤维制品、塑料制品(密胺)
双酚A	(EU)No 10/2011及其修订案	0.05 mg/kg	塑料制品
邻苯二甲酸酯迁移量	(EU)No 10/2011及其修订案	DEHP:1.5mg/kg	塑料制品
挥发性有机物	BfR Recommendation XV	0.5%	硅胶制品
铅迁移量	EDQM Technical Guide Resolution CM/Res(2020)9	未检出	纸制品
3-MCPD	BfRXXXVI/1和BfRXXXVI/2	12μg/L	纸制品
铬	Decree of 21 March 1973 and Ministry of health	0.1mg/kg	不锈钢制品
钴	DIN 51032	扁平餐具：0.1mg/dm^2	陶瓷
铅		扁平餐具：0.8mg/dm^2	

• 参考网站：

- https://www.cpsc.gov/Recalls/?Page=1
- http://www.healthycanadians.gc.ca/recall-alert-rappel-avis/search-recherche/simple?s=&plain_text=&f_mc=4&js_en=&page=5&f_mc=4&f_sc=34
- https://webgate.ec.europa.eu/rasff-window/portal/?event=SearchForm&cleanSearch=1
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