On average, nearly 30 product recalls occur every week in the US; nearly 22 per week occur on average in Europe. Yet, many food and beverage companies are uninsured or underinsured for product contamination or mislabeling which are the most common triggers for a recall.

Until now, food and beverage companies did not have access to a tool that estimates the financial impact of a product recall — or probable maximum recall loss. AIG’s new NOVI Product Recall Cost Estimator solves that issue.

**Product recalls are expensive and occur often**
For large companies that have faced a recall in the past five years, 77% of respondents to a recent Grocery Manufacturers Association (GMA) poll estimate the financial impact to be up to $30 million USD; 23% reported even higher costs¹.

**Regulatory oversight is increasing**
Recent legislation, such as the Food Safety Modernization Act from 2011 in the US and the REGULATION (EC) No 178 from 2002 in Europe, expands the government mandate in the food safety area. The Food and Drug Administration (FDA), United States Department of Agriculture (USDA) and European Food Safety Authority (EFSA) closely monitor product contaminations and have the mandate to enforce corrective action ranging from product recall to suspension of production at affected plants.

**Global supply chains are increasingly complex**
Food imports to the United States have grown by an average of 10%² each year, over the last seven years, according to the Food and Drug Administration (FDA). In Europe, from calendar year 2000 to 2012, EU agricultural imports increased from an estimated $53.3 billion to more than $131 billion³.

**Lack of tools — until today**
The lack of a credible methodology to estimate the financial impact of a product contamination was a major challenge in understanding and managing effectively the risk. As companies rarely disclose the real cost of contamination incidents, benchmarking has limited application. AIG has developed an analytic tool, NOVI, that can help companies understand the magnitude of the financial risk posed by product contamination.

¹ Source: Capturing Recall Costs, 2011 report by the Grocery Manufacturers Association, Covington & Burling and Ernst & Young.
On average, nearly 30 product recalls occur every week in the US; nearly 22 per week occur in Europe.*

Most Product Recalls Are Caused by Biological or Allergen Contaminations.

A survey of Grocery Manufacturers’ Association members indicate that:

- 81% deem financial risk from recalls as "significant to catastrophic".
- 58% have been affected by a product recall event in the last five years.

AIG can insure companies in the following categories, regardless of their size or annual revenue provided they meet certain minimum underwriting criteria. Any company that manufactures, imports, or distributes food, beverages or raw materials is at risk of a contamination or mislabeling event — which can trigger a product recall.

**Manufacturers**
The vast majority of product contamination incidents occur during manufacturing, whether due to manufacturing error, malicious acts or contaminated ingredients. Product contamination events can happen to any manufacturer, regardless of size, manufacturing technology or product.

**Private Label Owners**
Private label owners are at risk to the extent that they do not have recourse against the party that caused the contamination (typically the manufacturer or distributor). Usually, the lack of recourse is caused by the bankruptcy of the party at fault or uncertainty regarding the cause of the contamination. In cases of malicious product tampering (including extortion) the label owner may be directly targeted.

**Contract Manufacturers**
Contract manufacturers produce products that are sold under another company’s label. They may be held responsible by their customers for third party losses such as loss of profits resulting from a contamination.

**Distributors & Retailers**
Although less frequent, contaminations do occur during distribution. Retailers, in particular, handle certain exposed products at the salad bar, deli counter, dairy counter and more. Large retailers are often perceived as “deep pocket” targets and have been subject to actual or threatened malicious product tampering for financial gain (extortion).

**Importers of Food Products**
Companies that import products manufactured overseas may be liable for recall and destruction costs of contaminated products. Such costs, plus the value of the contaminated product, may be recovered from the manufacturer provided it assumes responsibility for the contamination and can bear such costs. Acts or threats of malicious tampering may target a company or a certain product for its country of origin, use of certain ingredients, testing or manufacturing procedures etc.
Product recalls are only one component of a product contamination event.

**PROPERTY DAMAGE**

Condemned Product — value of the contaminated product that must be recalled and/or destroyed.

Product Recall — expenses incurred to trace, identify and withdraw contaminated product from the stream of commerce.

Product Destruction — depending on the type of product, extent of distribution and nature of contamination, destruction costs can be expensive.

Recall Consultants — companies may employ recall or crisis management consultants to access specific skill sets, minimize disruption of the business and contain brand damage.

**BUSINESS INTERRUPTION**

Product Unavailability — a product contamination may affect a large volume of stock leaving a company unable to meet demand.

Decontamination Downtime — decontamination of manufacturing equipment may result in partial or complete shutdown.

Government Intervention — government agencies may require closure of a plant until safe manufacturing conditions are restored.

Brand Damage — loss of sales, due to loss of contract or confidence in a product, following a contamination event.

**THIRD PARTY**

Property Damage — typically applies if the contaminated product becomes an ingredient of another product.

Bodily Injury — liability resulting from the bodily injury caused by the contaminated product to consumers.
Although product contaminations occur frequently, the real cost is rarely disclosed by the affected companies. AIG has developed NOVI Product Recall Cost Estimator, the first analytic tool that can help companies understand the magnitude of the financial risk posed by a product contamination.

**WHAT IS NOVI PRODUCT RECALL COST ESTIMATOR?**

NOVI estimates the financial impact of a product recall caused by an accidental product contamination. It allows food and beverage companies to calculate their Probable Maximum Recall Loss (PMRL) at the plant level. The result, a NOVI Estimate, is based on an extensive analysis of thousands of recall and contamination incidents, insight from over 25 years of interaction with food and beverage manufacturers worldwide and input from leading food safety consulting companies.

**WHAT IS PROBABLE MAXIMUM RECALL LOSS (PMRL)?**

PMRL is defined as the largest probable loss arising from an accidental contamination that occurs during production. It assumes the failure of critical control points in the sourcing or manufacturing of the company’s product. The PMRL includes the value of contaminated products, recall expenses, destruction costs and loss of profit associated with the contaminated products.

**HOW DOES NOVI WORK?**

**3 Easy Steps:**

1. **Any food and beverage company can access NOVI by registering up to three plants at www.aig.com/novi.**
2. **Within approximately 3 days, a form is emailed to qualified companies. The form has a unique identifier for the company and plant and can be saved by the user until completed. Upon completion, the form is emailed back to AIG.**
3. **Approximately 3 days after AIG receives the completed form, a NOVI Estimate is sent to the requesting food and beverage company, with a copy sent to the broker if desired.**

NOVI requires the questionnaire be completed by food and beverage companies only. The information collected by NOVI is confidential.

**NOVI MODEL LIMITATIONS**

NOVI does not consider an increase in loss caused by:

1. Government action resulting in extended recalls or long term production suspension; or
2. Loss of public confidence in a product, brand or company, including any costs to mitigate such loss; or
3. Extended interruption of production due to equipment repair or decontamination or
4. Loss of contract or license to manufacture a product; or
5. Intentional acts.

**DOES A BROKER HAVE ACCESS?**

The NOVI form allows the company to share the contact details of their broker so that the NOVI Estimate is delivered simultaneously to both parties.

**WHY IS NOVI IMPORTANT?**

The more a company understands its exposure, the more informed decision it can make protecting its customers, supply chain and bottom line. Knowing your risk begins with knowing your number.

**NOVI IS FREE!**

There is no cost. NOVI is free. No insurance purchase is required to use NOVI.
Clients who have not yet made the decision to buy Contaminated Product Insurance (CPI) need to understand the extent of their potential exposures and the protection offered by the insurance. Here are some suggested discussion points.

<table>
<thead>
<tr>
<th>THEME</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONTAMINATIONS CAUSE PRODUCT RECALLS</strong></td>
<td>Companies often mistake product contamination with product recall. They are not the same. A product recall is only one potential consequence of a product contamination. Contaminations are complex events with multiple consequences including property damage, business interruption and third party liability.</td>
</tr>
<tr>
<td><strong>CONTAMINATIONS ARE EXPENSIVE</strong></td>
<td>The cost of a contamination is determined by its magnitude, duration and regulatory and/or public response. Certain contamination events, particularly biological, may require the recall and destruction of products manufactured over the course of weeks or even months. Decontamination operations or regulatory intervention cause production interruption, whose cost can often dwarf the value of the contaminated stock. Product unavailability and negative publicity reduces brand equity.</td>
</tr>
<tr>
<td><strong>ACTING QUICKLY IS CRITICAL</strong></td>
<td>A company’s response in the first 48 hours of a product contamination event is critical. It involves understanding the nature and extent of the contamination, developing a response, communicating with government agencies and distributors and managing the reputational impact on customers. Exporting companies may have to respond to contaminations abroad, in an unfamiliar environment and a foreign language.</td>
</tr>
<tr>
<td><strong>THE BIGGER THE BRAND, THE HIGHER THE POTENTIAL TO BE MALICIOUSLY TARGETED</strong></td>
<td>Large companies may have a strong balance sheet and a diversified portfolio of products. A product contamination may lead to a loss of public confidence in a brand, erasing years of investment. Popular brands may become targets for malicious tampering because of the significant media coverage of these types of incidents. Extortionists target “deep pocket” companies that are vulnerable to negative publicity.</td>
</tr>
<tr>
<td><strong>SMALL OR MEDIUM-SIZED ENTERPRISES (SMEs) ARE MORE VULNERABLE TO DAMAGE</strong></td>
<td>Typical profit margins in the food industry are very thin. SMEs have lower volume, a more centralized production process and fewer suppliers and distributors than large companies. A suspension of production at the main plant and/or large recall caused by a product contamination can suffocate a company. A loss of a major contract due to the same reasons may be equally devastating.</td>
</tr>
<tr>
<td><strong>RECOUSE AGAINST SUPPLIERS IS NOT ALWAYS AN OPTION</strong></td>
<td>Damage recovery from suppliers depends on their financial stability and willingness to assume responsibility for a contamination. A supplier may face multiple claims, which if aggregated, may exceed the supplier’s capacity to pay such damages. Suppliers may also dispute responsibility for damages and make recovery a protracted and expensive process, particularly for foreign suppliers.</td>
</tr>
<tr>
<td><strong>REGULATORY OVERSIGHT IS INCREASING</strong></td>
<td>Recent contamination events demonstrate an increasing willingness of government agencies to take an active role, especially when the source of contamination or the affected stock cannot be identified. In order to ensure consumer safety, government agencies can extend the scope of recall or suspend production at affected plants.</td>
</tr>
</tbody>
</table>
But...

WE ALREADY BUY GENERAL LIABILITY INSURANCE
CPI is a first party coverage and protects the insured from financial loss resulting from a product contamination incident. CPI does not require a third party law suit or other legal proceedings. CPI supports a proactive crisis management approach and may reduce third party exposures resulting from the consumption or use of a contaminated product.

WE ALREADY HAVE A ROBUST FOOD SAFETY PROGRAM
Zero risk does not exist. The best food safety program may reduce the likelihood of a product contamination, but it does not eliminate the risk. Accidents do happen and when they occur a company has to be able to manage the consequences.

WE MANUFACTURE A LOW BIOLOGICAL RISK PRODUCT
All food products are at risk, even if they present a low risk for pathogens. Allergens, whether by cross contamination or mislabeling, represent the leading cause of product contamination and recalls.

WE ARE CERTIFIED BY A THIRD PARTY FOOD SAFETY AUDITOR
There is no food safety certification or regulatory approach which entirely eliminates the risk of product contamination. Audits and certification may demonstrate compliance with certain standards, but they do not prevent accidents that result in product contaminations.

WE HAVE NEVER HAD A MAJOR RECALL
The frequency and severity of product contamination events has increased due to changes in the food and beverage industry. Tighter regulatory requirements have been introduced, supply chains have become increasingly complex and early pathogen detection has improved.

THE DEDUCTIBLES ARE TOO HIGH
The deductibles are designed in relation to the daily company output so the insurance is not triggered by minor (and frequent) manufacturing errors.

WE OUTSOURCE MANUFACTURING
Recourse against contract manufacturers depends on their financial health and willingness to assume liability. A large contamination event may drive a manufacturer (particularly a smaller one) into bankruptcy. Long term damage (brand and loss of sales) is difficult to quantify and business may not recover.

THE INSURANCE IS TOO EXPENSIVE
CPI provides affordable and predictable protection. It is designed to protect against events with major financial impact and low frequency.

WE AUDIT OUR SUPPLIERS
Audits provide a snapshot of the suppliers operations and can attest to the existence and effectiveness of preventive controls at the time of the audit. Accidental deviations may still occur and cause significant contaminations downstream. Also audits cannot prevent intentional acts such as economic adulteration.

WE’RE ALREADY COVERED
There is no comprehensive coverage for product contamination offered by any other type of insurance. Other policies may provide a limited cover, typically recall costs, which may represent only a small fraction of the financial loss resulting from a product contamination.
Here are a range of scenarios illustrating contamination incidents and the CPI coverages.

**SOFT DRINKS**
Accidental Contamination  
Contaminant: Fungal spores

Aseptic packaged soft drinks were found to be contaminated with fungus. The contamination reached a detectable level several weeks after production. In addition to recalling the product, the company was forced to stop production and investigate the cause. The course of contamination was eventually found within the piping of the aseptic packaging line. The investigation, decontamination and testing caused a six month shutdown of production.

**CONFECTIONERY**
Accidental contamination, Adverse Publicity  
Contaminant: Allergen

Manufacturer was notified by a foreign distributor that chocolate bars had peanut filling instead of fruit filling as advertised on the wrapping. Internal records indicated that the manufacturer used incorrect wrapping over several days. The manufacturer initiated a public recall of the product. A popular publication reported the story, but misquoted the product as chocolate candy. In addition to the cost of recall and loss of profit related to the chocolate bar, the company recorded a significant reduction in sales for all chocolate candy.

**READY MADE FOOD**
Accidental contamination, Governmental Recall  
Contaminant: Bacterial

Products were found contaminated with bacteria after consumers fell sick. The company widely recalled tons of products from the market. Despite lengthy investigations, the company could not identify the exact source of the contamination. A government agency expanded the scope of the recall to include products manufactured several months prior to the discovery of the contamination and ordered suspension of all activity at the plant where the contaminated products were sourced.
Claim scenarios CONT’D

SAUCE
Accidental contamination
Contaminant: Allergen

As a result of a severe allergic reaction from a consumer, a manufacturer of canned sauces was notified that dairy products may be present in their sauce product. An internal investigation revealed that an ingredient supplier had reformulated their seasoning blend, but did not include dairy on the ingredient list. The sauce manufacturer had to recall thousands of cases of product that contained the undeclared dairy allergen.

CONFECTIONERY
Accidental Contamination
Contaminant: Bacterial

A small company received large amounts of a salmonella contaminated ingredient, which was used across a wide range of products. The finished products did not test positive for salmonella. The company initiated a wide precautionary recall upon notification from the supplier. The total cost of the incident (recall costs, contaminated product and loss of sales) approached 20% of the annual sales of the company. There was no recourse as the supplier declared bankruptcy after facing multiple claims. The company also declared bankruptcy.

MULTIPLE PRODUCTS (RETAIL)
Malicious Tampering, Product Extortion
Contaminant: Arsenic

The CEO of a large retail chain received an anonymous letter threatening contamination of random products on the shelves unless a large ransom was paid. The extortionist did tamper with products and marked them with warning stickers. The media learned about the incident from a customer that purchased one of the tampered products. The company refused to pay the ransom. The random nature of the tampering made a recall impossible but the company lost millions in sales due to reduced traffic in stores. The extortionist was never caught.

SOFT DRINKS
Malicious Tampering, Product Extortion
Contaminant: Poison

A soft drink company was threatened with product poisoning unless a multi million dollar ransom was paid. Poisoned product samples were found and at least one person became seriously ill after consuming a tainted product. The tampering occurred while the product was in retail stores. The company initiated a major emergency recall of the targeted product. The company suffered significant losses due to recall costs, condemned product and reduction in sales. The extortionist was later arrested.
AIG was the first company to provide Contaminated Product Insurance (CPI) almost 30 years ago. Today, AIG remains the market leader and this product continues to be the market standard around the globe.

AIG has outstanding underwriting expertise, best in class loss prevention and a highly experienced, dedicated claims team.

Deep understanding
Nearly 30 years in the business provides unmatched underwriting experience and understanding of product contamination risks. AIG’s dedicated product contamination engineering team gives the company a unique perspective into the latest developments in the food and beverage industry.

Local expertise
AIG has the largest specialized CPI underwriting team in the world, combining global expertise with a local perspective on the risks facing the food and beverage industry. AIG offers world class coverage delivered in local language forms, adapted to each market.

Dedicated claims team
AIG provides its clients the support of a dedicated claims team. The team is experienced in complex product contamination claims and comes with local service capabilities across the company’s extensive international network.

Exclusive best in class crisis management support
AIG clients have 24/7 exclusive access to a worldwide network of top class crisis management consultants. AIG clients have direct access to leading food safety, security and public relations consultants to help them make the best decision in managing a contamination event.
Contaminated Product Insurance (CPI) was designed to protect companies against the financial loss caused by a product contamination, whether accidental or malicious.

The CPI outline describes the insured perils, coverage and services embedded in the policy. This is only a summary for general guidance and scope, terms and conditions that are subject to policy provisions. Coverage may vary by territory.
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