

RESPONSIBLE PACKAGING

GRI Standards :

- 302-5 : Energy
- 305-5 : Emissions
- 306-2 : Effluent and waste

EXECUTIVE SUMMARY

Packaging is crucial to ensure the quality and integrity of our products throughout the distribution chain. It also contains important information for the proper use of medicines, precautions and regulatory information. Packaging complies with each country's specific regulations for the collection and recycling of packaging materials, marking and identification systems, and acceptable concentration levels of certain heavy metals, etc.

Because packaging requires the use of raw materials, Sanofi has organized initiatives to reduce their environmental impact, taking into account current regulatory constraints. Such initiatives are part of Sanofi's "Packaging Excellence" function within Global Industrial Affairs and include programs to reduce packaging size and weight, to set limits on packaging-related waste, and to develop ways to reduce the environmental impact of packaging used for transport, especially for temperature-sensitive medicines. Optimization and simplification of packaging patterns and transportation efficiency are part of a continuous improvement approach.

Sanofi's Environmental Sustainability program, "Planet mobilization", includes the commitment of improving the environmental profile of products by delivering eco-innovative medicines including eco-packaging and circular solutions. In 2020 Sanofi has launched the new generation environmental sustainability goals, including "Eco-packaging approach for 100% new products by 2025". Sanofi is developing a digital tool to support the assessment and integration of environmental aspects into product design that follows a Life Cycle Analysis approach. This tool will scope the all products impact, and the first module, to be put in place in 2021, will be dedicated to Eco-packaging.

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1. BACKGROUND AND ORGANIZATION

Pharmaceutical companies use many types of packaging for the medicines and vaccines they sell. Packaging is crucial to ensure the quality and integrity of these products throughout the distribution chain. It also contains important information for the proper use of medicines, precautions and regulatory information.

In each country, specific regulations govern packaging, for example, for the collection and recycling of packaging materials, marking and identification systems, and acceptable concentration levels of certain heavy metals in packaging. In Europe, Directive 94/62/EU is an example. Because packaging requires the use of raw materials, Sanofi has organized initiatives to reduce the environmental impact of packaging while taking into account current regulatory constraints.

Such initiatives include programs to reduce packaging size and weight, to set limits on packaging-related waste, and to develop ways to reduce the environmental impact of packaging used for transport, especially for temperature-sensitive medicines.

To coordinate these initiatives, Sanofi has a corporate function devoted to “Packaging Excellence” within Global Industrial Affairs. A dedicated network using site-based resources supports the Global Packaging Excellence team. It operates at 65 sites worldwide and includes more than 110 people.

During regional quarterly meetings, participants share best practices and identify opportunities for improvement. In addition, a dedicated shared platform is available on-line to facilitate team connections, access standards, and reporting tools.

2. ACTION PLAN

A comprehensive initiative to reduce the consumption of packaging materials was introduced early 2013 for our solid forms products packaged in blisters made of PVC/aluminum and aluminum/aluminum.

This initiative has been extended to all divisions including Injectables, Genzyme and Pasteur. It concerns 65 Sanofi production sites.

Based on a specific Sanofi methodology developed by Global Packaging Excellence, workshops are organized at each site to simplify, harmonize and optimize existing products. In particular, in order to improve logistics efficiency and adopt harmonized packaging sizes, a multifaceted approach based on several steps is being implemented:

- using pallet occupancy as the basis for logistics optimization, with a target pallet occupancy of over 85%;
- defining common shipment volumes to help maximize pallet occupancy;
- defining common box sizes.

Major workshops for 2016 took place in Dubai (UEA), Kawagoe (Japan), Waltloo (South Africa), Rzeszow (Poland), Veres (Hungary), Bucharest (Romania) and Cologne (Germany).

Such initiatives ensure that high-quality projects are in the pipeline, in line with our expectations, with a material reduction of approximately:

- PVC (polyvinyl chloride): 182 metric tons (mt) in 2014, 360 mt for 2015-2017.
- Aluminum: 59 mt in 2014, 60 mt in 2015- 2017.

Moreover, the number of pallets of finished goods avoided represents an additional major benefit, amounting to a 5 to 40% reduction, depending on the site’s portfolio. It may be estimated at several

thousands of pallets avoided per year. In 2016, the benefit represented a reduction of 25,000 pallets to be transported (approximately 350 truckloads) for the sites participating to the initiative.

All internal sites have now gone through this process. The said process has been captured in a central guidance, that must be used by sites as a continuous improvement exercise, done in autonomy.

Since 2018, a special effort has been made with 3 of our main CMOs (Contract Manufacturing Organizations) : the optimization of pallet patterns and transportation efficiency (truck loading optimization with pallet double stacking) delivered significant reduction of transportation environmental impact: a reduction of 370 pallets (on a total of 4500) and 72 trucks avoided (on a total of 148) on a yearly basis.

The process has been computerized in an internal tool called “Stackatool” that will be used to deploy the effort to all CMOs in the coming years. This project has been recognized by an internal award on the performance category.

A new initiative has been launched to find alternative of PVC for blisters. It will be a long journey but Sanofi is strongly engaged and is part of a working group with other partners to surface reliable alternate solutions to this material. In this frame, a plastic non PVC material has been tested (PET) which shows interesting results in term of processability. This material has been then included in Sanofi LCA strategy, and results are reported in 4.2.

3. MEDICAL DEVICES

While optimization and simplification of packaging such as blisters and boxes are part of a continuous improvement approach, specific studies are being conducted on other packaging-related factors.



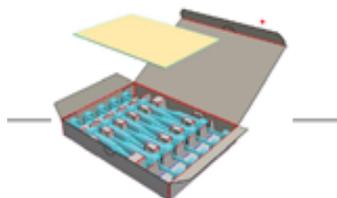
As an example, Sanofi decided to switch to a new pipette for our syrups, combining a better dispenser system, a mono-material design (all PP (polypropylene) instead of PE (polyethylene) + PS (polystyrene)), and reduced weight.

Sanofi conducted an intensive study for rapid implementation: new device production capacity increase, packaging line adaptation, and all regulatory aspects. Thanks to these efforts, within just a few months, the new device has been approved for Doliprane syrup, the leading syrup for the company in terms of volume. The switch is effective since 2018 with a weight reduction of 60 tons per year (33%). Subject to regulatory approval, this change will be extended to all syrups.

4. CASE STUDY

4.1. Replacing plastic trays with full carton inserts for secondary packaging

Some primary packaging, mainly glass used for ampoules, vials and syringes, are packed in plastic blisters or trays before being inserted in a carton box with a leaflet.



Thanks to the “One syringe” packaging initiated by Pasteur vaccines, Sanofi acquired effective expertise about replacing plastic blisters with carton inserts.

The innovative character of this packaging was recognized with a packaging award in France in 2016, the *Oscar de l’emballage*.

For this project, the current PVC blister has been replaced by a carton wedge, and the overall volume of the carton folding box has been reduced by more than 40%. The overall benefit represents the avoidance of 80 tons of PVC per year and a 50% reduction in the number of pallets to be transported.

Sanofi’s ambition is to replace plastic trays with carton-made systems for secondary packaging, as far as possible in terms of acceptance by final users (medical staff and patients).

This progressive approach has been started for Lovenox in the UK, and it is under study for some Lantus products packed in Anagni (Italy).

4.2. Building a base line of environmental footprint of our product : Enhancing the past initiative

Sanofi decided to conduct a Life Cycle Analysis (LCA) on a major typical product of its portfolio: a solid form product consisting of 30 tabs, 1 blister, packaged in a folding box.

This LCA gave the proportion of packaging in the overall environmental footprint of the product. Within the packaging, it gives also the respective contribution of each packaging material. The learning is that the packaging proportion of the total footprint is on the range of 10% for “climate change” parameter, distributed between secondary packaging (39%), primary packaging (blister, 26%), tertiary packaging (18%) and the leaflet (17%). These figures are only given for illustration on this particular case.

This study has been extended to other packaging solutions available for solid forms to determine if a change can reduce environmental footprint.

Based on positive technical trials on PET replacing PVC, an LCA has been conducted simulating the impact of replacing PVC by PET for a typical PVC/Alu blister packaging. Interestingly, the result shows an overall increase of the environmental impact in the standard criteria of LCA (Climate

change, Ozone depletion, emissions, Acidification and so on). Therefore, the research for a PVC substitute showing a better eco-profile is being continued.

In order to make fact-based decision a systematic process for Packaging sustainability improvement, in 2020, as part of its “Planet mobilization” initiative, Sanofi decided to extend the use of LCA tool. This use will no limited to packaging but initiated by a packaging module. This LCA tool, which will be based on highest standards and customized for Sanofi, will be used for new products and products major Life Cycle Management. Sanofi Global Packaging will dedicate specific resources to make the best use of this tool. Objective is to quantify the impact of products and packaging on Environment and further make the most appropriate technical options.

For more information, see our [Document Center](#): Waste management Factsheet