# Product Stewardship
## in the Can Industry

Can Manufacturers Institute

# Product Stewardship in the Can Industry

Table of Contents

# Product Stewardship in the Can Industry

## 1. Product stewardship for cans and can linings

The Can Manufacturers Institute (CMI) is the national trade association of the metal can manufacturing industry and its suppliers in the United States. The can industry accounts for the annual domestic production of over 130 billion food, beverage, aerosol, and general line cans; employs more than 28,000 people with plants in 33 states, Puerto Rico and American Samoa; and generates about $15.7 billion in direct economic activity.

*Product stewardship* is a term that encompasses activities to minimize the environmental, health, and safety risks and impacts of a product at all phases of the product life cycle—from conception through ultimate consumption, recycling, or disposal. This briefing on product stewardship in the can industry communicates CMI member product stewardship work that benefits our customers, consumers, the public, and the environment.

### 1.1. Product stewardship—an aspect of sustainability

Product stewardship is one set of activities within the broader concept of sustainability.[1] Metal cans have many sustainable attributes including a uniquely high recycling rate and positive comparative life cycle environmental profile. Because metal may be recycled over and over, the can is a key packaging solution in progress toward a circular economy—where resources are kept in use for as long as possible, the maximum value is extracted from them while in use, and materials are recovered. These important sustainability aspects of the can are described in other CMI materials and are not the focus of the information here.

This document provides information on the product stewardship work CMI members do in the areas of raw materials; product design; manufacturing; transportation and distribution; customer experience and education; and communicating and engaging with the public, government officials, and others in the supply chain. CMI members are dedicated to continuous product stewardship efforts while providing the essential packaging for accessible, affordable, and safe food, beverages, and other products. Each can sector company recognizes their responsibility to be stewards of their products as an employer, manufacturer, community member, and business partner.

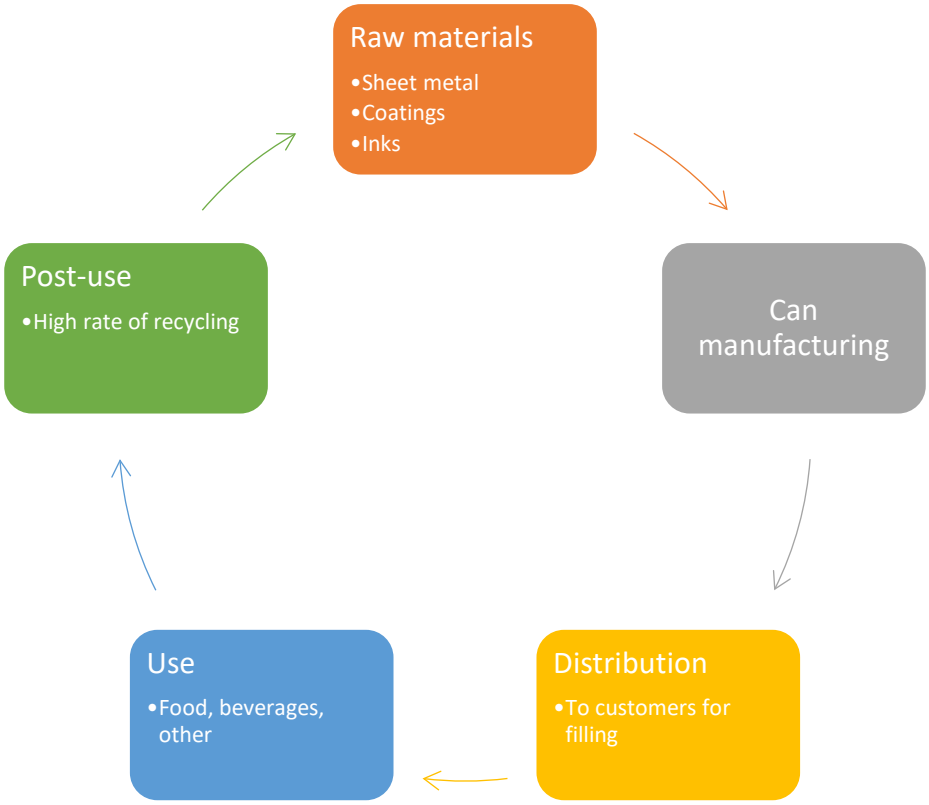
### 1.2. Can life cycle

The life cycle of a can involves multiple steps and types of companies. Sheet metal suppliers and coatings producers supply raw materials to facilities where the cans are made.[2] Can

[1] There are various definitions of *sustainability*, including the United Nations definition "meeting the needs of the present without compromising the ability of future generations to meet their own needs." Sustainability encompasses a wide range of social, economic, and environmental activities. Sustainability efforts include resource and energy conservation, greenhouse gas emission and carbon footprint reduction, waste minimization and recycling, circular economy principles, and many others.

[2] For more on how cans are made, see https://www.cancentral.com/can-stats/how-cans-are-made.

manufacturers distribute the cans to customers who fill them and place food, beverage, and other types of products into the consumer and commercial markets. After use, metal can be recycled essentially forever. Recycled aluminum and steel go back into can production.




CMI members companies include coatings and ink producers as well as the companies that manufacture the can itself—the discussion below highlights the efforts of these types of companies in the supply chain.[3]

## 2. CMI member product stewardship activities

CMI member companies have product stewardship programs that address each point in the product life cycle where they are involved, because it is good business as well as good citizenship. They have product stewardship commitment at all levels of the company and manage product stewardship efforts through quality management systems that may include written policies and procedures. They employ product stewardship staff with assigned roles and responsibilities and workforce development programs to support their professional growth and expertise. The product stewardship function is an essential business function for bringing products to market and keeping them on the market.

[3] This discussion does not cover activities of other types of companies in the supply chain such as metals producers and recycling facilities.

Product stewardship efforts contribute to product quality, business sustainability, legal compliance, meeting shareholder expectations, and maintaining good relationships with the customers and communities in which the business operates. Some of the product stewardship practices in the can industry are highlighted below.

## 2.1. Raw materials

**Raw material assessment and selection.** Can manufacturers have adopted a circular approach that involves obtaining raw materials from sustainable sources and using recycled inputs to the extent feasible. Research and development (R&D) and product stewardship professionals consider material hazard and environmental profiles when selecting raw materials. Both can manufacturers and coatings and ink suppliers continuously innovate toward safe and sustainable raw materials.

The raw material selection process includes extensive review and vetting of technical data and each raw material supplier's systems for producing the materials. Supplier qualification and procurement procedures ensure that the purchasing company has clear knowledge of (1) each supplier's credentials, certifications, technical capabilities, and business practices; and (2) the ingredients, process, packaging, and delivery of all materials to minimize risks and ensure complete regulatory compliance.

Can sector product stewardship experts assess raw materials according to the latest scientific findings and safety data. They use a risk-based approach in accordance with scientific standards. A key step in risk assessment is consideration of exposure potential as well as the safe concentration for using a substance. This enables product stewardship experts to make reliable judgements about whether a product will be safe as used.

**Supplier qualification.** Raw material supplier selection considers as decisive criteria—alongside key commercial and operating indicators—performance on safety, health, environment, social standards, and fair business practices. Can manufacturers and coatings and ink suppliers have requirements for their raw material suppliers, which may include requiring them to:

- Adhere to all applicable environmental, health, and safety laws.
- Have ISO 14001 certification[4] or other demonstration of continuous environmental improvement.
- Document a responsible sourcing process.
- Conduct a supply chain risk assessment.
- Identify and address risks and environmental impact attached to supplier products during production, distribution, and use.
- Establish measurable targets to reduce environmental footprint.
- Provide the purchaser with the information necessary for the safe handling and use of their products.

[4] https://www.iso.org/iso-14001-environmental-management.html

These requirements are implemented through a supplier evaluation and qualification process, which may involve detailed questionnaires and audits of suppliers. Many management systems have written policies and procedures on raw materials compliance.

**Procurement policies and conditions.** Many companies have written policies on responsible sourcing and procurement, supported by regular supplier surveillance and confirmation of conformance with the polices. Some or all aspects of these procurement policies may be incorporated into contract terms and conditions.

Sourcing or procurement policies can cover topics including environmental management, recycling and waste management, energy use, environmental information, and continuous improvement. The policies may require suppliers to identify the risks and environmental impact attached to their products during production, distribution, and transportation and to look for opportunities to reduce these. Suppliers agree to share relevant knowledge, expertise, and experience with their own suppliers, customers, and other parties. Many comply with established codes of conduct.[5]

**Technical specifications and QA/QC.** Raw materials are sourced under tight technical specifications using rigorous systems for quality assurance (QA) and quality control (QC). This assures that the standards applied during raw material selection and procurement are met in the actual materials received. There is traceability in the supply chain, meaning that can manufacturers have detailed information on every material used and the ability to trace them back to specific suppliers and batches.

**Conflict minerals.** Since can raw materials are primary metals, a key product stewardship element is auditing to ensure there is no use of conflict minerals.[6] Can manufacturers are committed to the ethical sourcing of components and materials, which includes compliance with requirements regarding conflict minerals. They work with suppliers and others in the complex global supply chain to confirm that no minerals in raw materials finance conflict in the covered countries. They require suppliers of products containing tin to demonstrate traceability and accountability of the raw materials delivered, including the disclosure of the smelter base.

**Supply chain collaboration.** CMI member companies work in partnership with their suppliers to raise the overall level of safety and environmental performance for raw

[5] An example is the Code of Conduct of the German Association of Materials Management, Purchasing, and Logistics (BME).

[6] A conflict mineral is a mineral that is extracted in a conflict zone and sold to perpetuate fighting there. In the U.S., companies are required to audit and disclose use of conflict minerals. Publicly traded companies are required to report the origin of tin, tantalum, tungsten, and gold contained in their final products. A company that uses any of these minerals is required to conduct a country-of-origin inquiry to determine whether any of the minerals originated in covered countries and to disclose the results. Under certain circumstances, a Conflict Minerals Report and additional supply chain due diligence activities are required.

materials. This involves can industry companies transferring knowledge to suppliers, as well as supplier companies sharing their relevant expertise with the purchaser. For the can sector, our supplier base—which includes hundreds of companies around the world—is a significant contributor to our product stewardship knowledge and work.

Can industry companies and their suppliers may be members of collaborative initiatives such as AIM-Progress[7] (a forum of consumer goods manufacturers and common suppliers assembled to enable and promote responsible sourcing practices and sustainable supply chains) and others.

## 2.2. Product design

**Can design.** Can producers design, manufacture, and deliver products to meet or exceed the technical performance standards established by each market. Design criteria include that products should offer value and performance while continuing to reduce environmental footprint, supported by product assessment and research.

Today's can makers actively work on downgauging and lightweighting. This involves focusing expertise on reducing packaging weight and minimizing resource use, while maintaining product quality and conformance with applicable specifications.

Finished can products are extensively tested and evaluated prior to being launched on the market, based on recognized scientific methods resulting in a high level of safety in the production, application, and final disposition. Internal testing and QA/QC programs ensure that finished products meet design specifications. Companies have recall procedures in the rare event that a quality or other issue necessitates retrieving product from customers or other downstream entities.

**Design of can linings.** Coatings suppliers are continuously innovating in designing their products, including can linings which protect the integrity of the can, prevent corrosion, and provide the highest quality barrier to bacteria, while maintaining quality, flavor, and freshness. Materials are screened for beneficial properties before being selected to compete for inclusion in can lining prototypes. Only a fraction of the best performers become part of next-generation linings that are proven safe and effective and approved by regulatory authorities. CMI members companies in the coatings sector invest in active research and development of advanced coating products with potential environmental benefits.

Companies that make can linings employ toxicology and industrial hygiene experts who assess potential hazards and risks, mitigate them, and communicate throughout the supply chain about appropriate use conditions. These companies perform in-depth product risk and global regulatory assessment of each product and update their assessment when new information becomes available. Every can lining component is evaluated for safety by the

[7] https://www.aim-progress.com

U.S. Food and Drug Administration (FDA) via an explicit listing in the *Code of Federal Regulations* or by a comprehensive pre-market review.

The results of product risk assessment are essential information in operations and business decision making. This can occur through "gated" workflow processes in which potential health, safety, and environmental impacts are identified and considered at each phase of the product development process.

## 2.3. Manufacturing

**EHS standards.** CMI member companies have environmental, health, and safety (EHS) programs at all industrial locations. They implement comprehensive programs to prevent pollution and control emissions to air, water, and land. They apply internal standards supported by environmental management systems, standard operating procedures, and regular auditing.

**EHS compliance.** CMI members create a culture of "zero tolerance" for noncompliance with EHS regulations. They have programs in place to comply with numerous requirements under the U.S. Clean Air Act, Clean Water Act, Resource Conservation and Recovery Act, and Emergency Planning and Community Right-to-Know Act—just to name a few. They strive to exceed regulatory standards for facilities, personnel, and products by ensuring all materials and processes are at or above any compliance or industry standards. Companies in the can sector not only comply with the regulations in the locations they operate, but also adhere to internationally recognized voluntary standards, such the ISO 14001 standard for environmental management systems.

In many companies, a corporate EHS team oversees and supports facility personnel with compliance activities—within an environmental management system that includes tracking compliance dates, creating required reports, keeping chemical inventories, and other activities. Environmental management systems include internal auditing to identify and correct potential issues early and to drive continuous improvement.

**Safety culture.** Occupational safety in can sector companies is a top priority, with a long-term objective of zero accidents. Companies invest in training to raise awareness and increase technical safety standards, and regularly audit to ensure adherence to strict safety standards. Training courses are held at all sites to ensure that employees can identify and eliminate accident risks. Companies also conduct global safety campaigns to foster even greater awareness of the most important safety issues for employees. CMI member companies also commit to safety for subcontractors and other companies' employees working at our sites.

CMI member companies in the United States comply with U.S. Occupational Safety and Health Administration (OSHA) requirements and internal safety standards. They have hazard communication programs that include a written hazard communication plan that is available to all employees, a hazardous chemical inventory, a safety data sheet (SDS) for

every hazardous chemical on site, labeling of each container of chemicals with the identity of the material and its hazard warnings, and information and training for employees on the hazards of materials in their workplace. Can industry companies conduct detailed health and safety risk assessments, provide personal protective equipment for workers as appropriate, and carry out regular safety inspections of facilities and equipment.

**Waste minimization and waste management.** EHS professionals develop and implement waste management plans and continuously seek ways to reduce, recycle, and reuse production waste. Process engineers optimize processes to reduce resource consumption, which contributes to minimizing waste. The can sector aims for zero waste to landfill at its facilities. This involves short-term efforts to minimize landfill waste through recycle, reuse, management at waste-to-energy facilities, as well as longer term redesign processes to produce zero landfill waste (i.e., 100% reusable/recyclable/compostable waste).

Can industry facilities work to maximize recycling of wastes and trash. This can include segregating recyclable materials, preparing materials for recycling (e.g., baling and compacting), and taking advantages of various options such as mail back.

Examples of can industry best practices in specific areas of waste management include:

- Wood pallet reuse and recycling. The preferred alternative is a closed loop program where pallets are reused.
- Filter cake diversion from landfills. Alternatives to landfills used by can industry facilities include sending the material for uses such as composting, cement manufacturing, and road beds.
- Fuels blending and waste-to-energy for coatings and associated materials as appropriate.

Can industry companies work on source reduction to use fewer resources, including water and energy. This may involve accounting and tracking resource extraction of facilities and energy and resource audits at facilities.

CMI member companies use various measurement and accounting methods to understand and reduce environmental impacts of facilities. They implement waste and emissions minimization plans and programs, conduct periodic waste audits at facilities, and track against corporate targets for reducing waste and emissions. Source reduction and waste minimization efforts often involve working with stakeholders (e.g., suppliers and customers) to redesign processes.

**Regulatory surveillance and engagement.** CMI tracks regulatory and policy developments to keep members informed about EHS issues that may impact the metal packaging sector. Companies have their own information sources and staff who track federal, state, local, and global regulatory developments. The can sector is committed to keeping current on all regulatory matters and contributing to the development of sound policy and regulations when it can offer relevant technical expertise.

## 2.4. Transportation and distribution

Safety and minimizing environmental impact are important goals in transport and logistics planning for companies in the can sector. Supporting activities may include:

- Using life cycle analysis to assess environmental impacts of logistics.
- Goals to reduce the emissions from transporting products.
- Goals to reduce non-renewable energy use in the warehouse network.
- Optimizing products and packaging in terms of weight and volume, to the extent possible without compromising their performance, convenience, and stability.
- Optimizing logistics through actions such as sourcing locally, prioritizing lower carbon transport options, and locating supplier facilities closer to customer facilities.
- Maximizing truckloads and reducing the number of truckloads.
- Considering safety and environmental performance when choosing transport and warehousing partners.
- Complying with all laws on transportation safety, such as hazardous materials transport requirements.

The metal can product is a packaging product, but there are various other packaging products used in the process of transporting and distributing the input materials to can materials and the finished product distributed by can manufacturers. Such packaging for transportation and distribution is the subject of industry efforts to minimize packaging and the environmental impacts of its use. Efforts include procuring recycled packaging, design to minimize the amount of packaging used, and participating in social enterprise efforts to reduce packaging waste in the environment.

## 2.5. Customer experience and education

Most companies in the can sector have a dedicated team to respond to customer requests and inquiries. This includes providing customers with detailed documentation of regulatory compliance and demonstrating that customer specifications are met. CMI member companies work with customers to share and align product stewardship and sustainability goals.

## 2.6. Communication and engagement

CMI members communicate with customers and the public about product stewardship in a variety of ways. Product stewardship management systems include procedures on hazard communication, aligned with the U.N. Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Companies provide clear and readily understandable instructions on the proper and safe use of their products. Some companies offer online learning modules on food safety topics.

## 3. Supporting global sustainability goals

The can industry is committed to supporting the United Nations (UN) 2030 Agenda for Sustainable Development. CMI member approaches to product stewardship align with the UN Sustainable Development Goals (SDGs). The activities described above directly support SDGs 9, 12, 15, and 17.


This SDG is to build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation. Can sector companies contribute to this with innovation in product design and industry compliance with safety and environmental regulations plus a safety culture and efforts that go beyond compliance.


The can sector makes an important contribution to responsible consumption and production. Metal packaging has a uniquely high recycling rate. Can producers work to minimize resource use and waste in their operations.


The “life on land” SDG refers to sustaining land, forests, and biodiversity. Metal is infinitely recyclable, unlike other types of packaging materials. Can manufacturing facilities have environmental management systems that minimize impacts on the places where they are located.


This SDG encourages partnering with the community, government officials, the public, and other businesses to advance sustainability goals. The product stewardship efforts described above all involve such partnerships, e.g., with suppliers, employees, government regulators, and customers.