CROWN
Brand-Building Packaging™

Never Compromise

Product Safety

Chemical Safety of Cans

The scope of our chemical safety program is applicable to all proprietary and non-proprietary products. In 2021, Crown implemented the One Crown Standard for material used in all operations. The One Crown Standard unifies existing standards of migration, toxicology and safety utilized in our various geographical locations. Crown's Chemical Phase Out Plan encompasses screening food contact materials for the presence of Chemicals of Concern (COC) and continues to take action to eliminate them where deemed necessary. While this is designed as an on-going effort, we are confident that the majority of materials used throughout our operations today have proven to meet the One Crown Standard.

For questions about product chemical content, please contact:
Sustainability@Crowncork.com

Chemical Phase Out Plan

- We are committed to reducing Chemicals of Concern (COC) in our production processes and our products by working to substitute, reduce, or eliminate where possible.
- Crown's Restricted Use List includes:

Substance	Synonyms
Per & Poly Fluorinated Alkyl Substances	PFAS, excluding PTFE
Acetyl Acetone	
Titanium Acetyl Acetonate Asbestos	TAA
C7-C9 Alkyl Phenols & ethoxylates	
Trisnonylphenyl phosphite	TNPP
Dioxins	
Furans	
Parabens	
Radionuclides	
Pb, Hg, Be, Cd, Co, Ni, As,	
Short chain Chlorinated Paraffins Medium Chain	
Chlorinated Paraffins Triclosan	
Polybrominted Flame Retardants N-methyl-2-	PBDE, HBCDD, TBBPA, PBB
pyrrolidone Chlorinated solvents	NMP
GMO	
Pesticides	
Engineered Nano materials	

Regulatory Compliance

These are the primary regulatory standards for the applicable regions

EU

- EU Regulation (EC) No. 1935/2004 relating to materials and article intended to come into contact with food and particularly with articles 3, 11(5), 15 and 17.
- EU Regulation (EC) No. 1895/2005 relating to the use of certain epoxy derivatives in materials and articles intended to come into contact with food.
- EU Regulation (EU) 2018/213 regarding Bisphenol A from varnishes and coatings.
- EU Regulation (EC) 2023/2006 regarding Good Manufacturing Practice for materials and articles intended to come into contact with food.
- With respect to the sealing gasket only, EU Regulation (EC) No 10/2011 as amended.

US FDA

- 21 CFR 175.300 Resinous and Polymeric Coatings
- Applicable regulations in 21 CFR parts 170 through 189
- 21 CFR 177.1210 Closures with sealing gaskets for food containers
- Food Contact Notification

Mercosur

- RDC 105/99 General provisions for packaging and plastic equipment
- RDC 326/19 Positive list of additives
- RDC 56/12 Positive list of monomers
- RDC 52/10 Dyes
- RDC 123/01 Elastomeric packaging and equipment
- RDC 20/07 amended by RDC 498/21 Metallic packaging

Additional Compliance

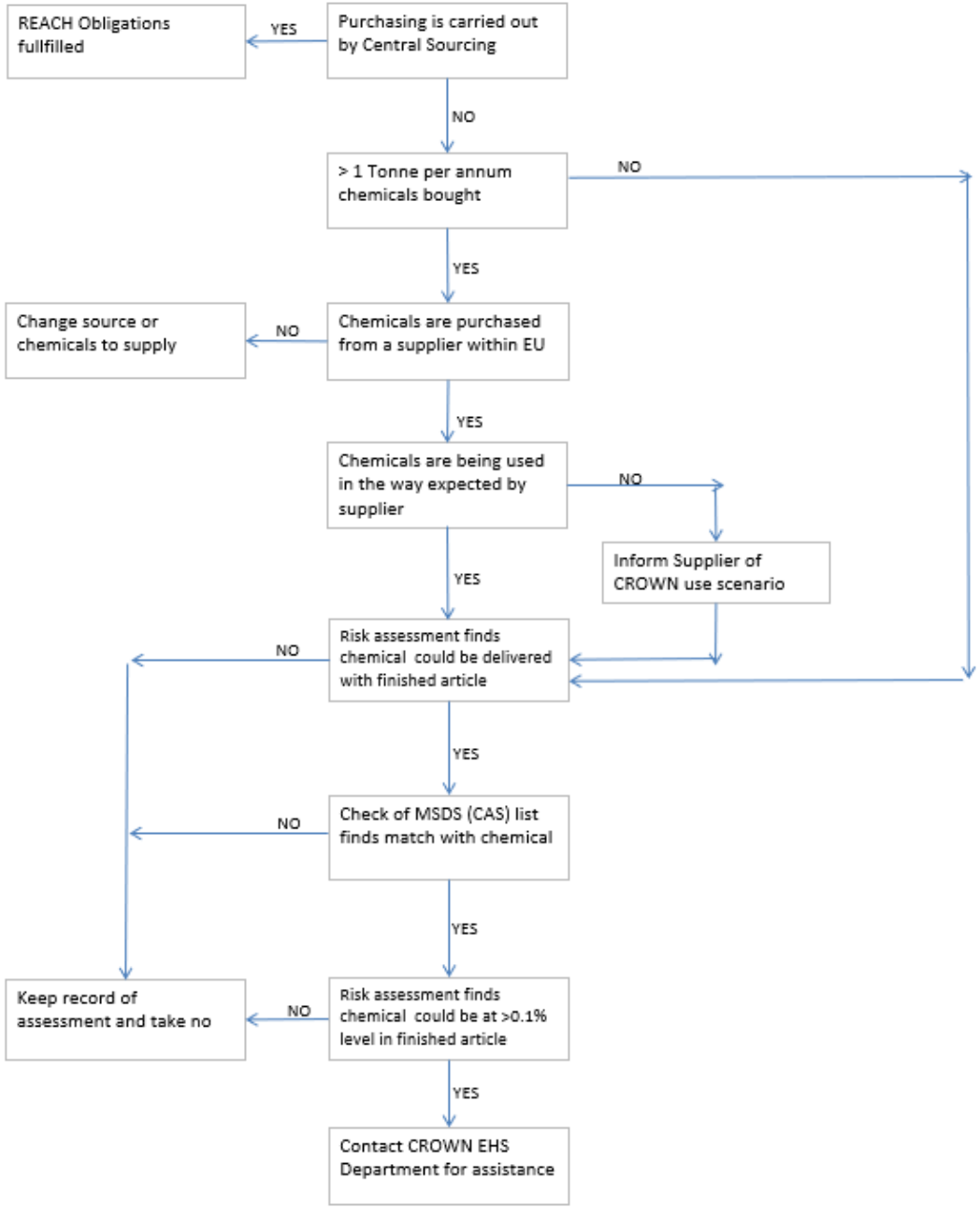
- All materials are REACH compliant (no Substances of Very High Concern).
- Products comply with other applicable regulations. This list should not be considered exhaustive.

REACH Registration, Evaluation and Authorisation of Chemicals

- The objective of this 2007 European Regulation is to ensure that “by 2020 chemicals are produced and used in ways that lead to the minimisation of significant adverse effects on human health and the environment”
- The supplier of an article (i.e. a can or end) containing more than 0.1% (w/w) of any substance listed in the 'candidate list' of Substances of Very High Concern must inform downstream users (i.e. customers) of it's presence.

Crown’s compliance steps:

1. Review the list of suppliers
2. Ensure no other chemicals sourced locally by site can be present in our products (cans or ends) at concentrations above 0.1% (w/w).
3. Reply using the standard letter in the appropriate language for customer



Safety in Products

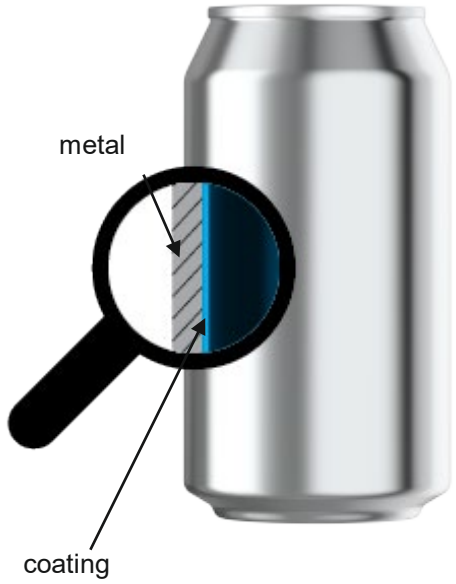
Safety is a priority in everything we do at Crown. Our products undergo rigorous safety tests at each step in the process – from *design* to *end use*. Crown's dedicated R&D team is involved in designing our products and working with suppliers to develop new materials, such as coatings. Products are then tested through simulation and compatibility testing. Quality protocols are in place throughout the production process to ensure that safe, high-quality packaging is delivered to our customers.

Product formulation – materials that make up a can:

- Metal
- Coating

Coating chemistries – chosen for manufacturing processes and packaged product:

- Epoxy
- Polyester
- Acrylic
- Olefin



Development of Coatings

Rigorous, multistep, multiyear development process

- Can linings are formulated over several years with **carefully chosen** components to **maximize** performance as a strong barrier between the packaging and the food.
- **Every** food contact component is evaluated through a safety assessment by relevant food agencies, such as the U.S. Food and Drug Administration, the European Food Safety Authority, and other global regulatory agencies, as part of a comprehensive pre-market safety review.
- The qualification phase of top performing developmental food contact liners involves **thorough evaluation** in laboratory and real-life tests in the most challenging conditions. This is accomplished by filling test cans with specific food products and exposing them to varying temperatures over the course of long periods of time, sometimes several years. **Only** can linings that perform **well** are commercialized.
- The process is **deliberately thorough** and lengthy to validate the safety and endurance of our can linings.

Trust in Cans & Can Linings

Background: Can linings protect the integrity of the can, preventing corrosion and providing the highest quality barrier to bacteria, while maintaining quality, flavor and freshness of the contents. To protect the quality, flavor and safety of food and beverages, a very thin lining must be used to prevent interaction between the can materials (steel or aluminum) and the can contents. Can linings also protect against perforation defects in the can that might allow bacteria and microorganisms to enter, thereby maintaining the integrity of the can and protecting against food poisoning and foodborne illness.

Linings and Sustainability: The lining itself is a very thin layer, similar to a coating of paint or even thinner, and thus makes up a very small part of the overall package. One of the environmental benefits of metal packaging is its infinite recyclability. Aluminum and steel cans are 100 percent recyclable, meaning they can be recycled over and over again without losing strength and integrity. When cans are recycled, the lining of the can is fully oxidized and is converted to energy during the process.

Additional Information:

- Innovations in Food Cans
- CMI Washington State - Canned Food Market Basket Survey

Source: Can Manufactures Institute
https://www.cancentral.com/content/innovations-food-cans

Safety in Production Processes

Crown is committed to safe manufacturing processes. Some ways we are workings towards our **Twenty**by**30** goal #5: *Reduce Volatile Organic Compounds (VOC) emissions by 10% per unit of product* include:

- Continue to develop precision application options to control **coating weight** and monitor **application performance**
- Reduce number of **coating pass applications**
- Increase use of **water-based coatings**
- Broaden the use of **dry coating** through use of power, laminate, and UV coating technologies
- Install and upgrade **Regenerative Thermal Oxidizers** (RTOs), as specified by local regulations