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BUILD ELECTRONICS BETTER

CHEMICAL AND PRODUCT REGULATIONS AFFECTING ELECTRONICS:

JAPAN

IPC 2021 White Paper

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1. INTRODUCTION

To lower the health and environmental impacts from chemicals, countries and regions around the globe have published various policies and regulations for chemical management. Japan started chemical legislation in the 1950s and has built the most well-established chemical regulatory system in Asia. Among those regulations, Japan's REACH and RoHS-like regulations could have significant impacts on importers and manufacturers of chemicals and electrical and electronic products. This white paper provides a history of chemical regulations applicable to EEE, a status of current activity, and trends for the near future.

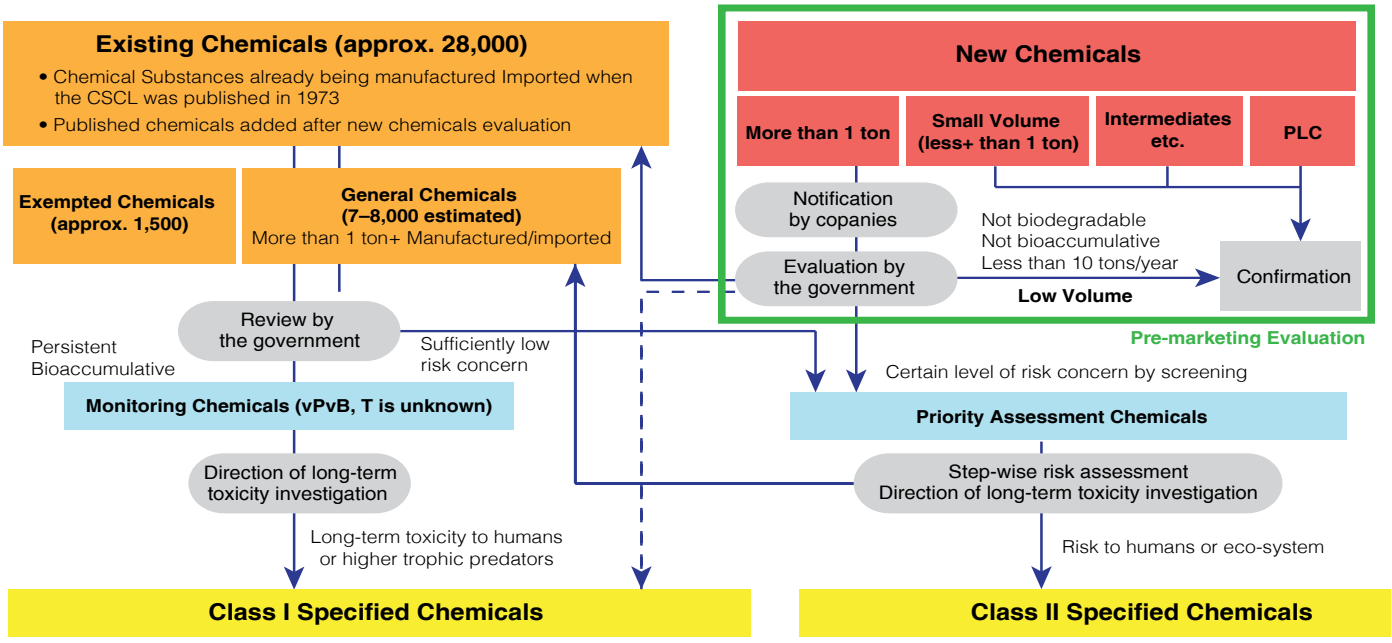
2. HISTORY OF CHEMICAL REGULATION DEVELOPMENT

1950	Poisonous and Deleterious Substances Control Law was implemented to control poisonous and deleterious substances. This law imposes a license requirement on manufacturers, importers and sellers of poisonous or deleterious substances.
1972	Industrial Safety and Health Law (ISHL) was issued to protect safety and health of workers in workplace.
1973	Japan established The Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., also called Chemical Substances Control Law (CSCL), known as Japanese REACH. CSCL is the most essential chemical management law in Japan, providing a framework for new chemicals as well as existing chemicals management.
1999	Law for PRTR and Promotion of Chemical Management (PRTR Law) was enacted, promoting businesses' improvements in the management of specified chemical substances.
2000	The Law for Promotion of Effective Utilization of Resources (Japanese Recycling Law) was issued, it requires companies to mark the presence of certain chemicals in some electric and electronic products.
2005	Technical standard JIS C 0950 came out, setting the concentration limit of the chemicals.
2019	Chemical Substances Control Law (CSCL) latest amendment.

3. CURRENT CHEMICAL REGULATORY SYSTEMS

3.1 REACH-like Regulations: CSCL

Japan has the most well-established chemical management regulatory system in Asia, and Chemical Substances Control Law (CSCL) is the core of the system. CSCL was issued in the 1970s, and its goal was to construct new chemical manufacture or pre-import examination, and existing chemical management systems, to prevent chemical pollution that could cause damage to human health and environment. For new chemicals, which are chemicals not in the Japan ENCS (Existing and New Chemical Substances Inventory) a strict pre-manufacture evaluation system is implemented, notification to and evaluation by the government are required before manufacture and import. For existing chemicals, manufacturers or importers are required to report their quantity and uses annually if the volume of manufacture or importation exceeds a certain amount. CSCL also designates substances subject to priority risk assessment and prohibits some substances from manufacture or importation. Chemicals are classified into six categories (general chemicals, monitoring chemicals, class I specified chemicals, class II specified chemicals, priority assessment chemicals (PAC) and specified general chemicals) based on the government's evaluation result before and after the product are placed on the market and are regulated accordingly, chemical classification can be checked through J-Check. With the support of CSCL, Japan issued six general industrial chemical regulations, around 30 specific industrial chemical regulations and dozens of department orders, forming a sound chemical regulatory structure. The evaluation flowchart is shown below.



Graph by CIRS (http://www.cirs-reach.com/news-and-articles/summary-of-the-chemical-substances-control-law.html)

3.2 RoHS-like Regulations: J-MOSS

J-MOSS refers to the Japanese Recycling Law (the Law for Promotion of Effective Utilization of Resources) and mandatory industry standard JIS C 0950. The Japanese Recycling Law, effective since 2000, requires companies to mark the presence of six hazardous substances in certain types of EEE; JIS C 0950, effective since 2005, sets the concentration limits for six hazardous substances in EEE and provides detailed guidance on the marking of those hazardous substances.

3.2.1 Product Scope

The product scope of J-MOSS includes the following EEE: personal computers, unit air conditioners, TVs, electric refrigerators, washing machines, microwave ovens, cloth dryers.

3.2.2 Substances Requirements

Substances	Limitation (%)
Cadmium	0.01
Lead	0.1
Mercury	0.1
Hexavalent chromium	0.1
PBB	0.1
PBDE	0.1

3.2.3 Mark & Label Requirements

If products are in compliance with the requirements, green marks can be put on the products voluntarily. If some of the six substances exceed concentration limits but the product meets exemption, green marks can also be put on the product but with the presence of hazardous substances disclosed online. If any restricted substances exceed concentration limits, orange marks must be put on the product and the presence of restricted substances must be disclosed online.

4 RECENT REGULATORY UPDATES AND REGULATION TRENDS FOR THE FUTURE

4.1 CSCL Chemical Category & New Chemical Calculation Method Update

Since CSCL came into force in 1973, it has gone through four major amendments, the most recent one happened in 2017 and took effect in January 2019 with two major changes.

The first change is the introduction of a new chemical category. Chemicals are designated into five chemical categories (general chemicals, monitoring chemicals, class I specified chemicals, class II specified chemicals and PAC) based on their toxicity, persistency and bio-accumulativeness. In this amendment, a new category "Specified General Substances" was added. A new substance is considered a PAC substance if its long-term toxicity to humans or environment is unknown. If the assessment result shows the chemical's adverse effects, the chemical will be classified as a Specified Chemical Substance, otherwise it is considered a General Substance. This new category of chemicals is for those that are not categorized as Specified Chemical Substances or PAC substances but have strong toxicity.

The second change is adjusting the calculation method for the manufactured/imported amount of a new substance which is applicable to the simplified new substance notification for small quantity. The new measurement of quantity will be based on the level of harmful emissions released by the chemicals into the environment, not on the manufacturing or import of chemicals.

With the trend of Japan chemical industries shifting to the production of a diverse array of chemicals in small quantities, in order to minimize the risk of chemicals to human health and the environment, CSCL is amended towards result oriented assessment method, and building a more detailed chemical classification and management system.

4.2 CSCL PFOA Ban

The Japanese Ministry of Health, Labor and Welfare (MHLW) released a CSCL partial revision on April 16, 2021. The revision lists perfluorooctanoic acid (PFOA) and its salts as Class I specified chemical substances and bans 13 kinds of products which use PFOA and its salts from Importation. This revision aligns the country's approach with global PFOA restrictions under the UN's Stockholm Convention on persistent organic pollutants (POPs).

PFOA-containing products that are banned from import are:

- water-resistant and oil-resistant paper
- water-repellent and oil-repellent textiles
- cleaning agents
- anti-reflection agents used in the manufacture of semiconductors
- paints and varnish
- water repellent and oil repellent
- adhesives and sealing fillers
- fire extinguishers, fire-extinguishing agents and fire-extinguishing foam
- toners
- water-resistant and oil-resistant clothes
- water-repellent and oil-repellent floor coverings
- floor waxes
- photographic paper

The revision will take effect on October 22, 2021.

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