



BUILD ELECTRONICS BETTER

CHEMICAL AND PRODUCT REGULATIONS AFFECTING ELECTRONICS:

SOUTH KOREA



IPC 2021 White Paper

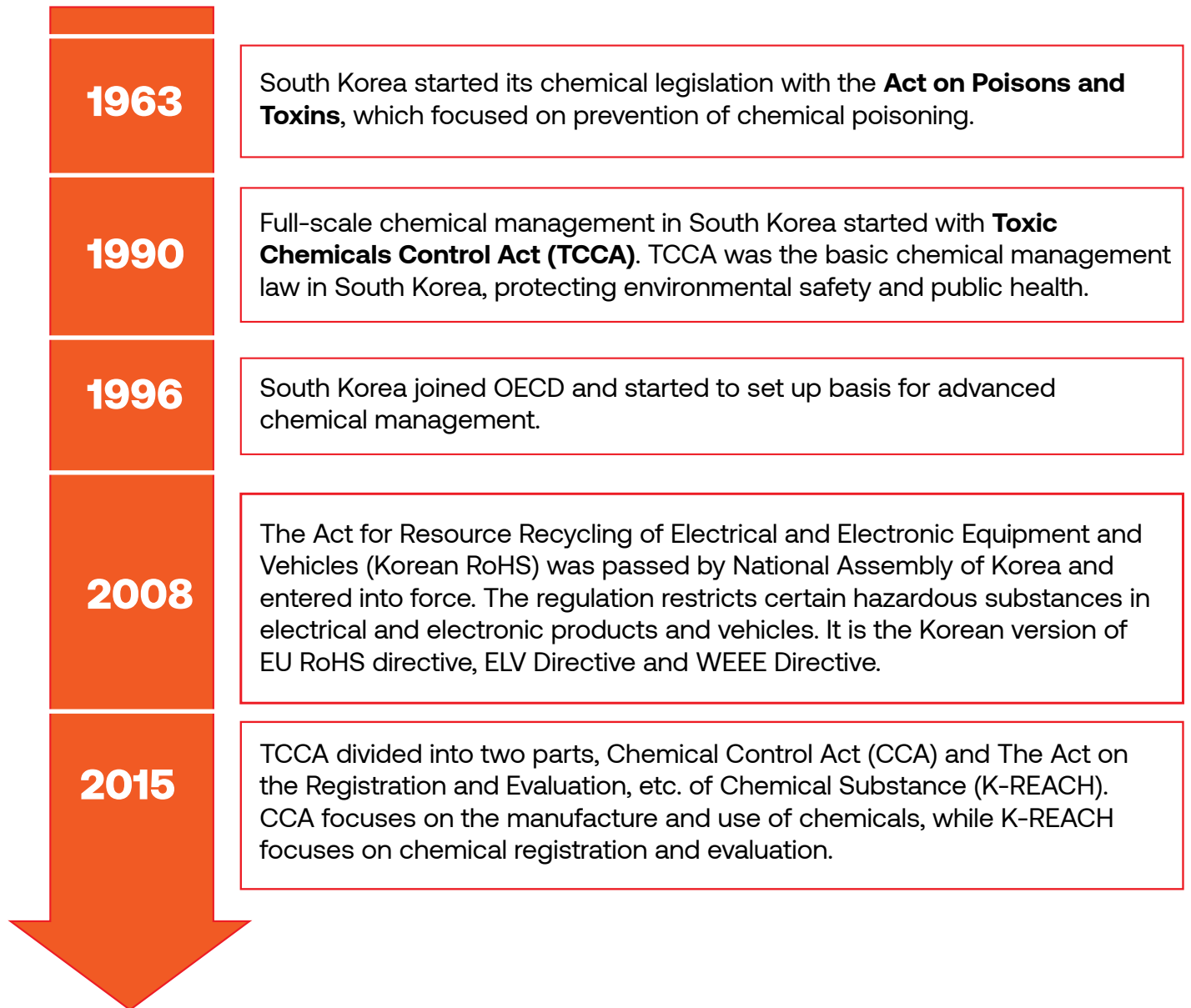
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1. INTRODUCTION

To lower the health and environmental impacts from chemicals, countries and regions around the globe have published various policies and regulations for chemical management. South Korea started its chemical legislation in the 1960s, with the first full scale chemical regulation, Toxic Chemical Control Act, and more recently with K-REACH and the Chemical Control Act. South Korea has built a relatively comprehensive chemical regulatory system during the past five decades. The development of these regulations has impact on chemical products internationally and domestically.

2. HISTORY OF CHEMICAL REGULATION DEVELOPMENT

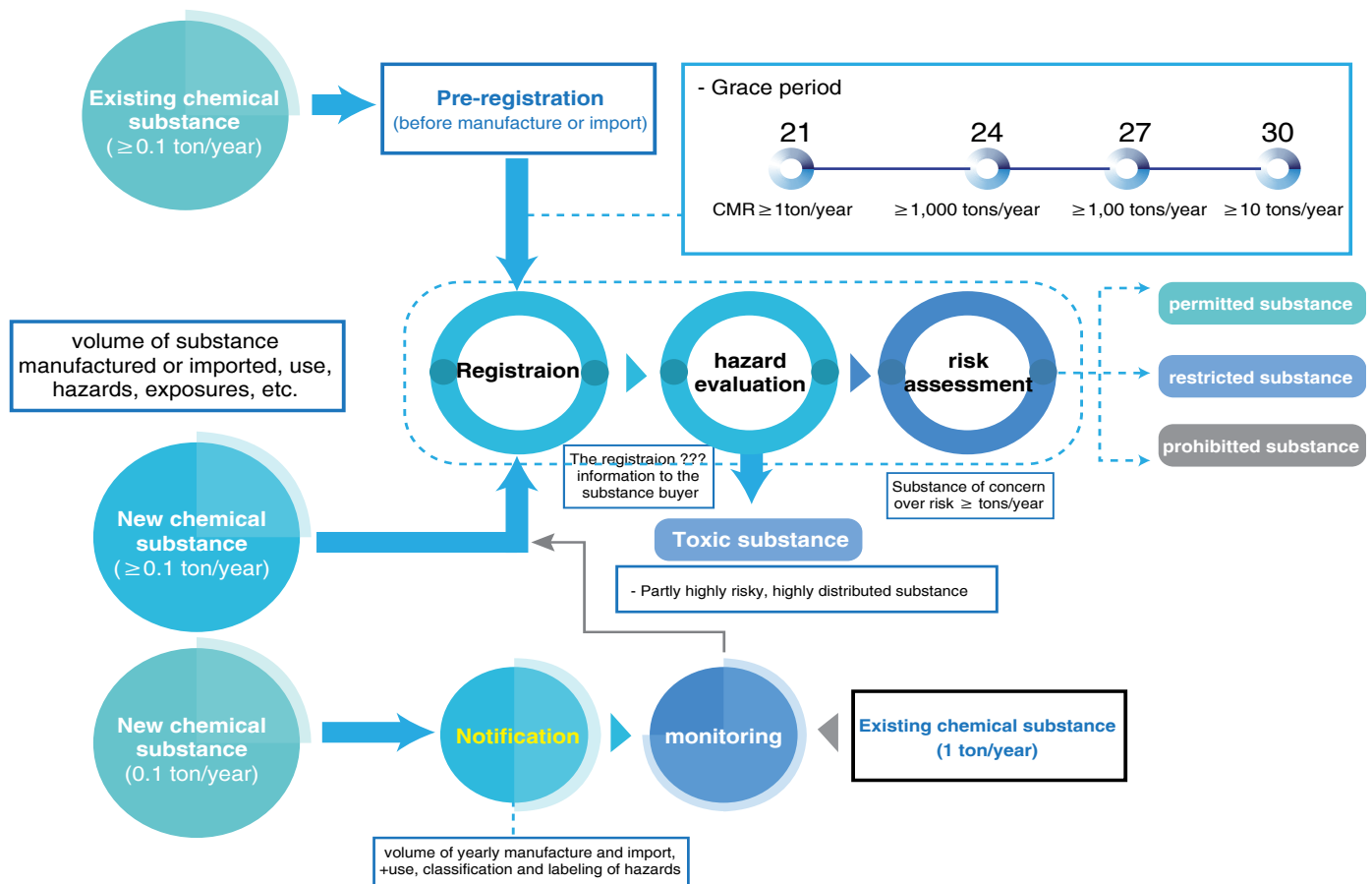


3. CURRENT CHEMICAL REGULATORY SYSTEMS

3.1 REACH-like Regulations

3.1.1 The Act on the Registration and Evaluation, etc. of Chemical Substance (AREC)

The Act on the Registration and Evaluation, etc. of Chemical Substance (AREC), also widely referred as K-REACH, was divided from TCCA and came into effect on 1 January 2015, focusing on chemical registration and evaluation. Amended K-REACH came into force on 1 January 2019. It requires anyone who intends to manufacture or import new chemical substances (chemicals without KE numbers) or at least one ton per year of an existing chemical substance shall register the chemical substance. The information of chemical classification can be inquired through [National Chemical Information System](#). Overview of K-REACH substances notification and registration is shown in the following graph.



[K-REACH Overview](#) (from CIRS)

Future registration deadlines are:

31st December 2021	Registration deadline of CMR substances >1t/y and substances >1000t/y
31st December 2024	Registration deadline of substances > 100t/y
31st December 2027	Registration deadline of substances > 10t/y
31st December 2030	Registration deadline of substances > 1t/y

3.1.2 Chemical Control Act (CCA)

The [Korean Chemical Control Act \(CCA\)](#), similar to K-REACH, was divided from TCCA and came into force on 1 January 2015. While K-REACH focuses on chemical registration, CCA focuses on the life cycle of chemical products, from market and distribution to handling and disposal. It requires manufacturers or importers to submit a “Written Confirmation of Details for Chemical Product” to Korea Chemicals Management Association (KCMA) before manufacture or import after self-evaluation of whether it contains any seven regulated chemicals in the following graph and follow up action is needed if any of those chemicals are contained. There are also other requirements for off-site impact analysis and risk management plan etc. The MoE will issue a business permit for hazardous chemical substances when the necessary standards are met.



(Graph by ChemLinked)

3.1.3 Occupational Safety and Health Act (OSHA)

Korea [Occupational Safety and Health Act \(OSHA\)](#) was published in 1990 and has been amended several times, with the aim to protect workers from hazardous chemicals exposure in the workplace. The latest amendment was published on 15 January 2019 and came into force on 16 January 2020. Similar to K-REACH, OSHA requires that chemical manufacturers and importers to register new substances with the Ministry of Employment and Labor (MoEL), report is not needed if the new substance has already been registered under K-REACH; chemical manufacturers and importers are required to submit safety data sheets (SDSs) to the MoEL prior to production or import; prohibited chemicals are prohibited from being manufactured, imported, transferred and supplied in Korea, and hazardous chemicals are subject to prior permission for manufacturing or use.

3.2 RoHS-like Regulations: Korea RoHS

[The Act for Resource Recycling of Electrical and Electronic Equipment and Vehicles](#), known as Korea RoHS, was passed on 2 April 2007 in the National Assembly of Korea and entered into force on 1 January 2008. This regulation restricts certain hazardous substances not only in electrical and electronic products, but also in vehicles. It is considered the Korea version of the combination of EU RoHS directive, ELV Directive and WEEE Directive. Korea RoHS has four major requirements: restriction of hazardous substances, efficient recycling design, WEEE collection and recycle and vehicle recycle.

3.2.1 Product Scope

The product scope of Korea RoHS includes 49 types of electrical and electronic equipment (EEE) such as televisions, refrigerators, mobile devices, washers (household use only), personal computers (monitors and keyboards), audio equipment, air-conditioners, printers, copiers and fax machines etc. Regulated vehicles include passenger vehicles, vans and trucks less than 3.5 tons. The full list of regulated EEE can be viewed [here](#).

3.2.2 Substance Requirements

Products	Substances	Limitation (%)
Electrical and Electronic Product	Bis(2-Ethylhexyl) phthalate (DEHP)	0.1
	Benzyl butyl phthalate (BBP)	0.1
	Cadmium	0.01
	Dibutyl phthalate (DBP)	0.1
	Diisobutyl phthalate (DIBP)	0.1
	Lead	0.1
	Mercury	0.1
	Hexavalent chromium	0.1
	PBB	0.1
	PBDE	0.1
Vehicles	Cadmium	0.01
	Lead	0.1
	Mercury	0.1
	Hexavalent Chromium	0.1

3.2.3 Marking & Labeling Requirements

Korea RoHS does not have any requirements on labeling of hazardous substances or RoHS marking.

3.2.4 Declaration of Compliance

Producers and importers of EEE and vehicles should self-declare their compliance with the requirements of hazardous chemicals concentration limits. Declaration can be done in one of two ways:

- Provide required information about the product on the [Electrical and Electronic Assurance System](#).
- Provide declarations on company websites and inform the authorities.

4 RECENT REGULATORY UPDATES AND REGULATION TRENDS FOR THE FUTURE

In recent years, the South Korea Ministry of Environment has made some major amendments on K-REACH and changes on supplementary inventories. The amendments strengthen the regulation on substances with high risk, strengthen penalties, and gradually reduce the requirement for substances with low risk and low tonnage.

4.1 REACH AMENDMENTS

South Korea Ministry of Environment adopted the amendment of K-REACH in March 2018, and the amendment became effective on 1 January 2019. The major changes are:

- A pre-registration system is introduced which will facilitate the joint registration of companies that manufacture or import existing chemical substances.
- Strengthened designation of priority-controlled substances.
- Penalties will be imposed for the manufacture, importation, or sale of chemicals without registration which cause harm to human health or environment.
- Notification obligation: new chemicals manufactured or imported at < 100 kg/yr are required to report to the National Institute of Environmental Research (NIER).

In April 2021, a partial amendment of K-REACH ([Act No. 18034](#)) was adopted. This amendment tightened the supervision on downstream users and sellers of chemical substances. The amended Article of K-REACH stipulates that the Ministry of Environment may order a downstream user of an unregistered chemical substance or a person who manufactures, imports, or sells the substance to stop manufacturing, importing, using or selling the chemical substance, to withdrawal, and take other necessary measures prescribed by K-REACH. The new requirements will come into force on 14 October 2021.

4.2 CMR Substances and Priority Control Substances

South Korea Ministry of Environment released the final list of CMR substances and priority control substances on 28 December 2018.

The list of CMR substances (carcinogenic, mutagenic, reprotoxic) contains 364 substances, which are required to finish registration before 31 December 2021.

The priority control substances are designated and publicly notified by MoE as they are hazardous to human health and the environment. Reports are required prior to the manufacture and import of products containing any priority control substances. List of priority control substance contains two inventories. The first inventory contains 204 substances which are currently circulating in Korea's market and needed management immediately, the inventory took effect on 1 July 2019. The second inventory contains 468 substances which are uncertain of whether they are circulating in Korea's market, thus it will take effect on 1 July 2021.

4.3 Online Data Support Platform

In order to help with K-REACH registration, South Korea Ministry of Environment launched an online data support platform (<https://www.chemnavi.or.kr/hrmflnSearch/hrmflnDtaGpForm.do>) on 31 January 2020. The platform contains large amount of chemical and physical properties, human health and environmental hazard data on 1515 existing chemicals collected from other countries and international organizations, which can be taken as reference for K-REACH registration.

In order to help enterprises with the amended K-REACH, South Korea government and organizations are taking actions to support the K-REACH registration. Other than the online data support platform by MoE, KCMA is also planning on launching several support projects to lighten the burden of enterprises. Enterprises shall make full use of those recourses and pay attention to the registration deadlines.

4.4 Korean RoHS Amendment

In August 2020, South Korea Ministry of Environment notified WTO a proposal of amended Korean RoHS, aiming to align with EU RoHS 2.1. The amended regulation took effect on 1 January 2021. Two major changes are:

- Four phthalates (BBP, DBP, DEHP and DIBP) are subjected to restrictions on the use of EEE.
- 23 new products are added to the product scope: Vending Machines, Dehumidifiers, Toasters, Electric Kettles, Electric Water Heaters, Electric Frying Pans, Hair Dryers, Treadmills, Surveillance Cameras, Food Dehydrators, Electric appliances for Massage, Foot Spas, Sewing Machines, Video Game Consoles, Wired and Wireless Routers, Scanners (not including portable scanner), Bread Makers, GPS Navigation Devices, Fryers, Projectors (not including portable projector), Coffee Machines, Herbal Medicine Cookers, Spin Dryers.



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