

K-REACH ACT NOW!



K-REACH - Enhanced safety for all

Newsletter-3 | March 2021

First segment

The Republic of Korea introduced an Act for the Registration, Evaluation and authorisation of the Chemical Substances ('K-REACH') aimed at enhanced safety for the Health of the Koreans and Environment of Korea.

The article on K-REACH is divided into 3 segment. The first segment is the introduction about the KREACH, second segment is the main content and the final segment describes the major issues and the conclusion.

What is the K-REACH Act?

The purpose of the K-REACH is to ensure that the chemical substances entering the Korean market are safe to the health and the environment of Korea. It is applicable for all the chemical substances manufactured and/or imported beyond 1 ton per year. Needless to state, all the new chemicals to be introduced in Korea are also obligated to comply with K-REACH.

Background of the K-REACH Act implementation

Korea witnessed several accidents attributed to chemicals. She faced several chemical industrial mishaps, as exemplified by the 1991 Nakdong River phenol contamination incident; 2005 hydrogen chloride leakage at Yeosu Industrial Complex, and 2008 phenol leakage in Gimcheon⁽⁵⁾. 2011 and 2012 witnessed accidents like humidifier disinfectant incident and hydrofluoric acid leak that increased the interest in the safety of chemicals. The 2012 hydrogen fluoride leakage accident⁽⁸⁾, which led to 23 casualties and 50 billion won of property damage, caused a significant increase in public interest regarding chemicals and chemical related accidents.

As per the latest publication of Chung SooLee et al,⁽¹⁰⁾ in 2007, 47,688,000 kg of chemical substances were emitted at 3012 places of business across the country while 57,247,000 kg were emitted at 3732 places in 2016. The number of workplaces and emissions increased by about 1.2 times over 10 years, and most of them were discharged to the environment through the atmosphere.

Overwhelmed with such statistics and incidences, the Korean Government found it essential to ensure the safety of the environment around the chemical plant and to reduce the potential impact of accidents. In May 2013, the law for the Registration, evaluation and Authorisation (the K-REACH Act) came into existence.

There are more than 40-60000 in commercial use and more than 200,000 notified chemicals manufactured and distributed around the world, and about 40,000 in Korea. Approximately 3,000 new chemicals are newly developed and released every year^(ref). Since various chemicals are widely used in the consumer products in everyday life, and public risk concerns have increased, thanks to the diversification of the market and the launch of new complex products. Such a large release of chemicals posed a huge risk to the health and environment. It is deemed essential to identify potential risk factors in advance, to prevent chemical safety accidents, and establish norms for appropriate careering release and use. The international chemical substance management systems (EU REACH, Japan CSCL, China REACH) have established and implemented the principle of 'No Data, No Market'. With the enactment and enforcement of the K-REACH Act in January 2015, companies stand mandated to register substance information before distribution. The government has established a system for hazardous and risk assessment, designating and managing hazardous chemical substances through the enactment of K-REACH. In January 2019, through the revision of the K-REACH Act, the scope and targets for obtaining hazardous information were expanded to build a safe society, well protected from potential hazards of the chemical substances and to promote the prevention of public environmental risks.



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References

1. Explanation of the Act on the Registration and evaluation, etc. of Chemical Substances, Ministry of Environment, 2019
2. 'What is the K-REACH Act? (Act on the Registration and evaluation, etc. of Chemical Substances)' Jong-ik Lee, Managing Director, Chemical Industry Division, Deloitte's Anjin Accounting Firm
3. ESG ISSUE REPORT, the K-REACH Act, From Crisis to Opportunity (Impacts for Investors by the Implementation of the K-REACH Act), 2013,4, SUSTINVEST, Donghyun Ko
4. 'Problems of the K-REACH Act and Solutions for Successful Settlement' by the Korea Economic Research Institute.
5. Saemi Shin, Sang-Hoon Byeon,* Jong-Ryeul Sohn, and **Kyong Whan Moon**; Int J Environ Res Public Health. 2019 Nov; 16(22): 4409 (doi: 10.3390/ijerph16224409).
6. http://chemical-net.env.go.jp/pdf/Korea_Lee_e.pdf
7. <https://icca-chem.org/news/how-do-we-calculate-the-number-of-chemicals-in-use-around-the-globe/>
8. You J., Chung Y.-J. Case Analysis of the Harmful Chemical Substances Spill. Fire Sci. Eng. 2014;28:90-98. doi: 10.7731/KIFSE.2014.28.6.090. [Google Scholar]
9. A Study on the Characteristics of Hazardous Pollutant Emissions in Korea from 2007 to 2016
10. Ji Young Im, BoKyeong Kim, HyunJi Kim, MyeongJi Lee, DaYoung Jeon, JiSung Ryu, DaeSik Yun, YongChul Jang & ChungSoo Lee; International Journal of Environmental Research; volume 14, pages 335-346(2020)



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Acknowledgment:

Acknowledge the support of our director - Research and Innovation Dr. Abhay Deshpande.



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