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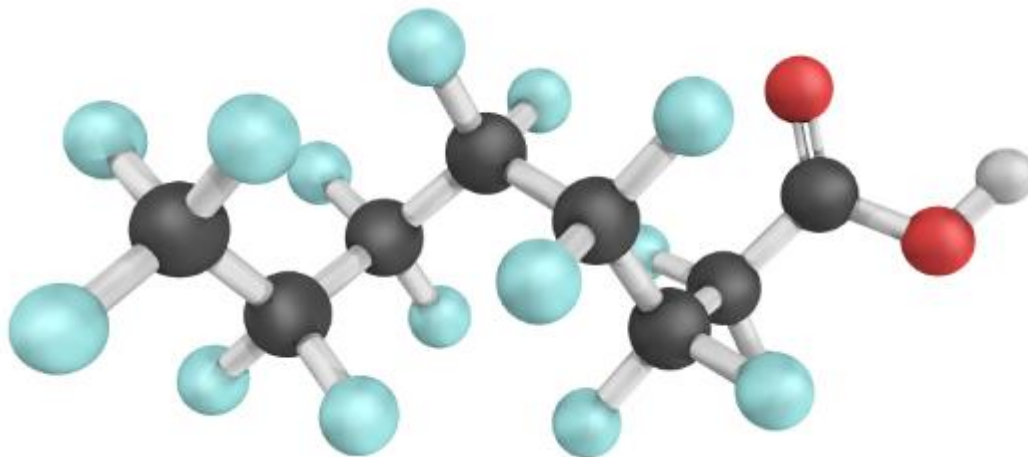
FAQ: Perfluoroalkyl & Polyfluoroalkyl Substances (PFAS)

Over the past year, an ever-expanding portfolio of detected PFAS were found in numerous products. Yet no clear picture of the full range of individual substance that comprise PFAS is. Authorities struggle to cope with uncertainties in managing risk of harm posed by PFAS, which results in an incomplete understanding of the range of compounds that they comprise in differing products.

On February 25, 2023, the C9-C14 PFCAs restriction requirements under REACH Annex XVII Entry 68 has already gone effective as mentioned in our [publication](#) in November 2022. However, there are still a lot of questions surrounding this substance. Below we had compromised some frequently asked questions (FAQs) that has been commonly raised up.

Q: What are PFAS?

A: PFAS refers to per- and polyfluoroalkyl substances, which are organic fluorine compounds containing at least one fully fluorinated carbon atom (-CF₂- or -CF₃ group). PFAS substances have been used since the 1940s and are a general term for a series of synthetic organic fluorine compounds, including thousands of substances including perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS).



Q: Why has PFAS received widespread attention?

A: PFAS are called "permanent chemicals" because of their persistence or degradability into persistent substances. PFAS can accumulate in humans, animals, and nature, and cannot be degraded by light, heat, biodegradation, or other means. It cannot be decomposed by chemical means, nor can it be metabolized in the living body. Moreover, relevant studies have shown that most PFAS substances are moderately or even highly toxic, especially affecting the development of children. Once a large amount of PFAS enters the organism, especially the human body, it is likely to cause cancer risk and endanger human health. In view of the hazards of PFAS substances to human beings and the environment, the control of PFAS in various regions or countries has become increasingly strict, and law enforcement agencies have gradually increased their enforcement of such substances.

Q: Is PFAS commonly used in electronic industry?

A: PFAS substances have excellent chemical stability, thermal stability, hydrophobic, oleophobic and other excellent characteristics, and are widely used in semiconductors, wire and cable (insulation) and cable assemblies, printed circuit boards and other materials and components in the electrical and electronic industry. For example, PFAS, including some fluorine-containing gases, may be used in semiconductors. Wire and cable (insulation) and cable assemblies, printed circuit boards (PCB), and liquid crystal displays may have used PFAS. Fluoropolymers can be fluoroplastics and fluoroelastomers, including PTFE, PFA, ETFE, FEP, etc are commonly used in wires and cables as they are highly temperature resistant, corrosion resistant, waterproof and oil-resistant, low dielectric constant (excellent electrical insulator properties), flexibility, high stress crack resistance, UV resistance, long life, etc. These therefore can be used in harsh environments and places requiring large-capacity data transmission, such as automobiles, medical equipment, data centers. PFAS can also be used as fiber-reinforced fluoropolymer layers in printed circuit boards (PCBs).

Q: What is the latest development in EU regarding the restriction PFAS substances?

A: On January 13, 2023, the European Chemicals Agency (ECHA) released a news that the five EU countries (Denmark, Germany, the Netherlands, Norway, and Sweden) jointly submitted a proposal to restrict all PFAS, and ECHA is expected to publish a detailed proposal on February 7, 2023. After investigating the risks in the manufacture, marketing and use of PFAS substances, the five EU countries found that the existing risks were not fully controlled and needed to be resolved throughout the EU and the European Economic Area, therefore they put forward this proposal. Subsequently, ECHA's Risk Assessment Scientific Committee (RAC) and Socio-Economic Analysis Scientific Committee (SEAC) will review whether the proposal complies with the legal requirements of REACH at their meeting in March 2023, and a 6-month consultation period is expected to be carried out beginning March 22, 2023. Once the relevant opinions are adopted, the proposal will be submitted to the European Commission, which together with EU member states will decide on the final restriction requirements.

Q: How should enterprises respond to PFAS control requirements?

A: In view of the hazards of PFAS substances to humans and the environment, the control of PFAS in various regions or countries has become increasingly stringent. Enterprises can identify high-risk materials based on the characteristics and applications of PFAS substances and conduct investigations from the supply chain and production process. Hence, with the investigation results and current legal control requirements and future trends, a reasonable alternative measure plan will be formulated to ensure that the product meets the control requirements of relevant laws and regulations and avoid trade risks.

Q: How can SGS help?

A: At SGS, we offer a comprehensive range of services to our partners. As the world's leading testing, certification, verification, and inspection company, we have the knowledge, experience, and global reach to assist you in meeting national and international standards, providing manufacturers, distributors and suppliers with total solutions, advice, and support in all aspects of product quality assurance.

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