AGC

Fluorine functional products

with environmental commitment

General Catalog

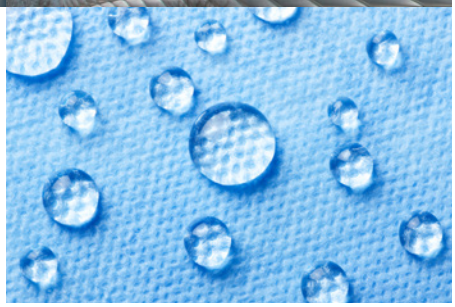
Chemistry for a Blue Planet

The Glory of Nature Inspires
Our Vision of the Future.

AsahiGuard
E-SERIES

AGC Chemicals
Chemistry for a Blue Planet

Power of Fluorine



Fluorine is the 13th most common element of about 90 natural elements found in the earth's crust. The fluorine atom has unique characteristics such as small dimensional size, high electronegativity, and the formation of a very strong chemical bond with carbon.

For these reasons fluorinated organic materials have excellent heat, chemical and weather resistant properties. Because of these properties fluorinated chemical compounds are used in applications such as manufacturing non-stick frying pans, heat resistant cables, hoses for chemical use, colourfast paints and water and oil resistant textiles. Another common use for fluorine is the addition to toothpaste to help prevent tooth decay. Fluorine manufactured products enhance our everyday lives.

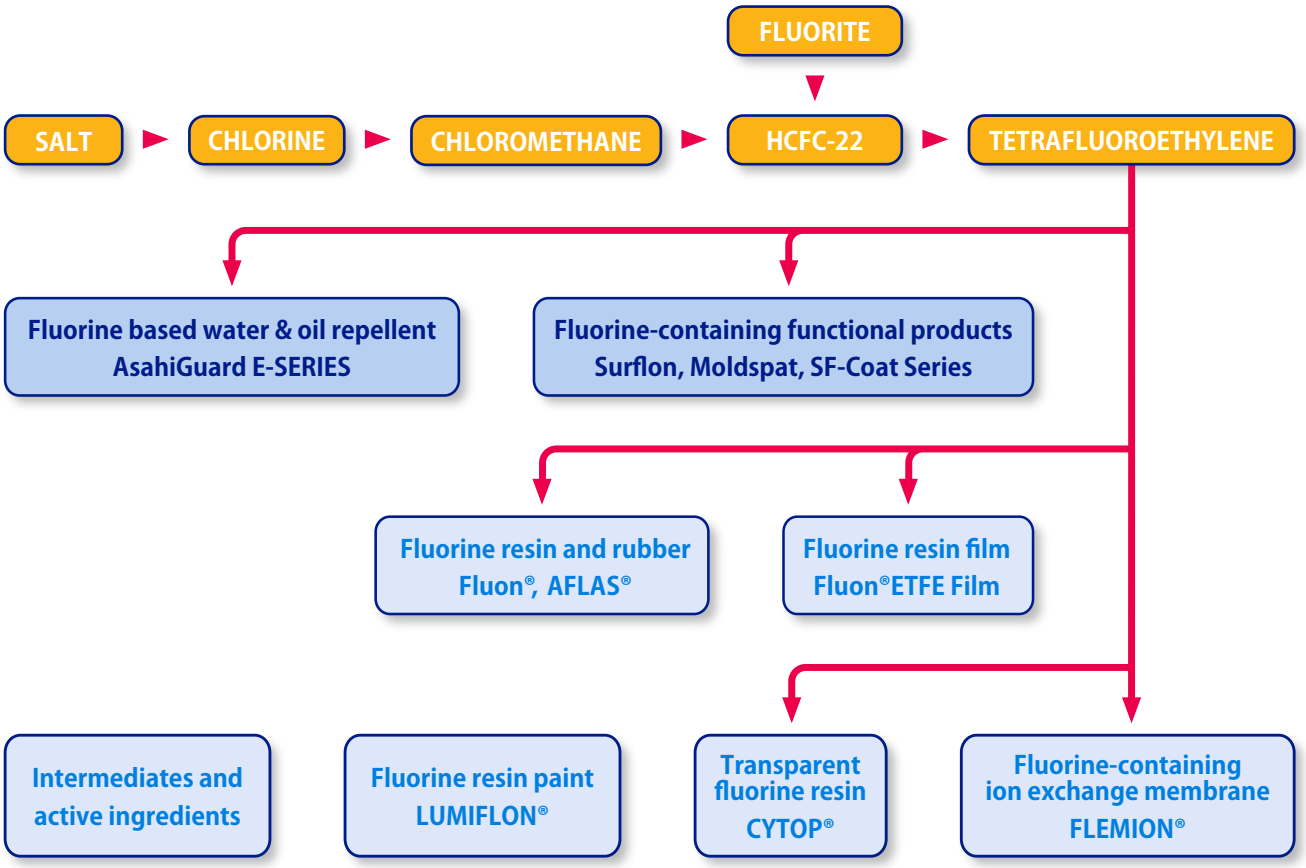
AGC

AGC Group Fluorine business

Our chemical business started with the need to secure supplies of soda ash for glass production and features exclusive technologies and production processes for a safer, more secure, more comfortable and environmentally friendly world.

This business consists of chlor-alkali, starting with caustic soda and vinyl chloride monomer, and urethane with polyols at the core. Our technical leadership in fluorinated products is the pillar of this business.

AGC Chemical chain



AsahiGuard E-SERIES

bluesign® SYSTEM PARTNER

AsahiGuard E-SERIES is a Fluorinated Water and Oil Repellent which uses the power of chemistry to create effective products that meet environment goals.

AsahiGuard E-SERIES Applications

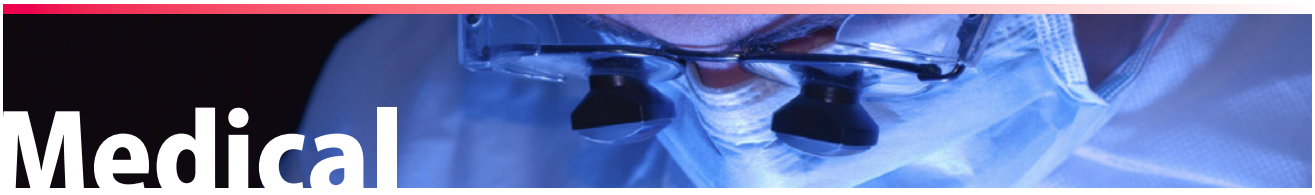
Clothing, Sportswear and Outdoor wear

Asahi Guard E-SERIES products can be applied to different types of materials such as woven fabrics, non-woven fabrics and leather. It is suitable for a wide range of applications including sportswear.

Food Packaging

AsahiGuard E-SERIES is well-suited to food packaging applications such as paper, paperboard and molded fiber products with FDA and BfR approval.

Medical care, Hygiene



AsahiGuard E-SERIES is commonly used at the cutting edge of healthcare, due to its resistance to alcohol, water and other fluids encountered in the healthcare industry.

Applied applications

General fiber, textile

- Baby clothing
- Car seats
- Carpet tiles
- Curtains
- Outdoor clothing
- Protective clothing
- Roller blinds
- Shower curtains
- Furniture (fabric-coated)
- Sportswear, sports items
- Swimwear
- Tablecloths
- Umbrellas, waterproof clothing
- Uniforms
- White coats
- Workwear

Non-woven fabric

- Acoustic material
- Air filters
- Automotive interiors
- Clothing lining
- Masks
- Medical gowns
- Pat
- Surgery cover cloth
- Surgical gowns
- Tape
- Wallpaper

Paper, packaging

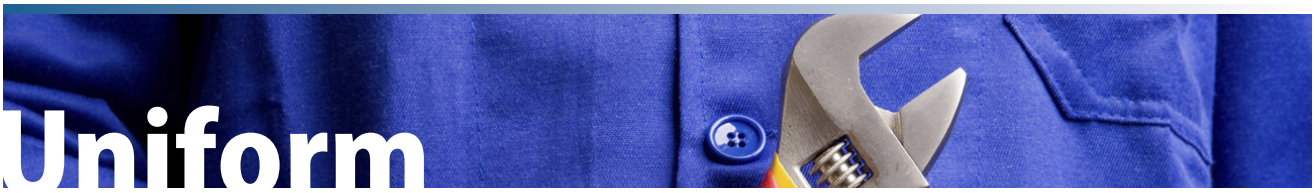
- Fast food packaging
- Food packaging boxes, bags
- Food quality retention agent
- Microwave sheet
- Packing material
- Pet food packaging
- Paper trays, tableware
- Wallpaper

- Natural, synthetic leather
- Stone, tile and other

Living Area and Furniture

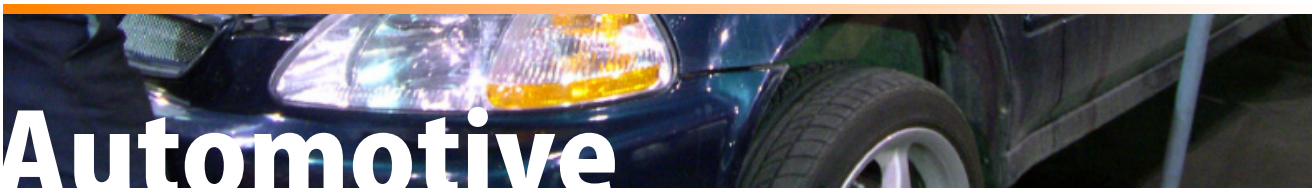
AsahiGuard E-SERIES can protect your home and possessions from unsightly stains. This allows your home and your possessions to maintain their original value and condition despite the wear-and-tear of daily use.

Workwear and Uniforms



AsahiGuard E-SERIES can keep uniforms clean, due to its outstanding oil repellency and formidable stain release properties.

Auto parts, Air filter and Technical textile



AsahiGuard E-SERIES is useful for a number of different automotive and industrial applications due to its outstanding water and oil repellency.

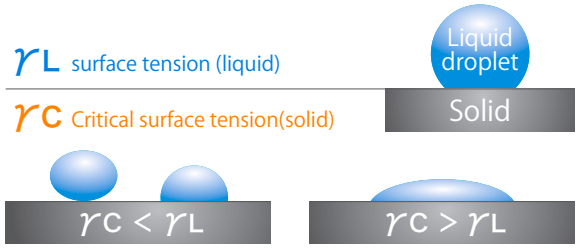
Chemical structure of AsahiGuard E-SERIES

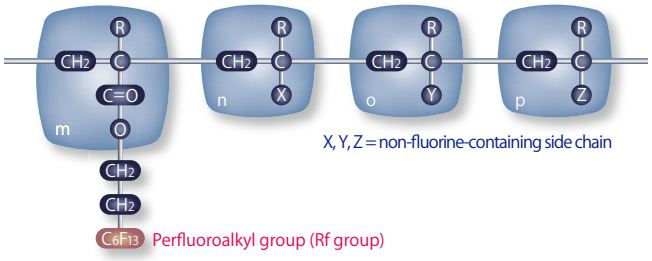
Advantage of Fluorinated Water and Oil Repellent Technologies

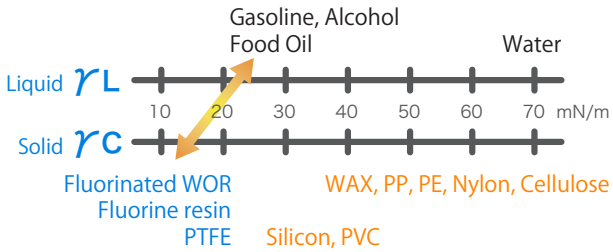
Water resistance occurs when the surface tension (surface energy) of the solid surface is lower than the liquid surface tension. (*See diagram)

The perfluoroalkyl group (Rf group) exhibits extraordinarily low surface tension. Solid surfaces coated by Rf groups resist not only water-soluble liquids (such as water, coffee, or milk) but also highly-active and aggressive liquids such as oil, alcohol, and gasoline.

Fluorinated water/oil repellant agents are recognized as superior to wax or silicone agents because of their superior stability and durability in real-life conditions.





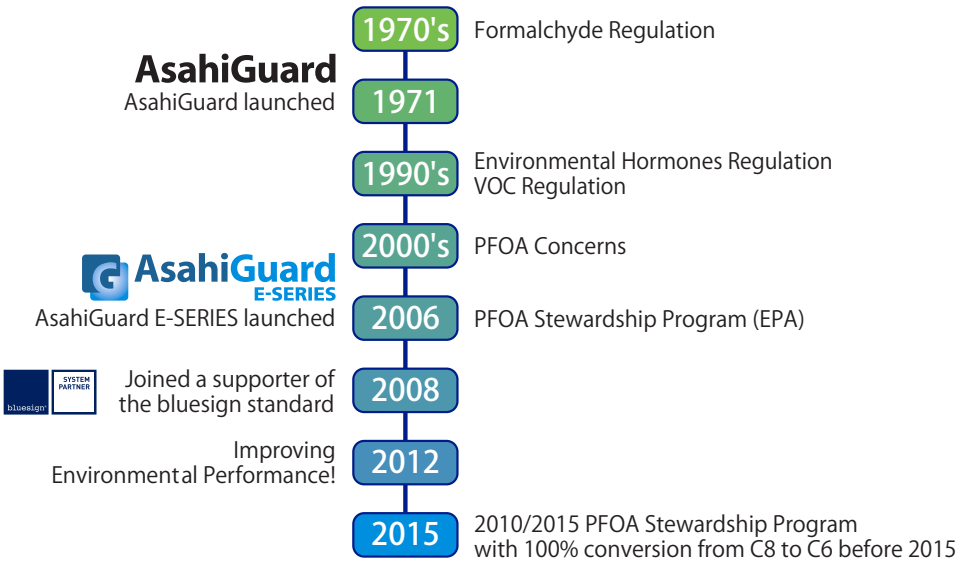


AGC's commitment to the global environment

To maintain the trust of our customers, we the AGC Group, as a company with chemicals as a technological platform, must focus on areas in which we can make the most of our strengths and provide value to the world. Toward that end and in furtherance of our long-term commitment to protecting the environment, we are extending and enhancing our environmental activities as one of the Shared Values in the Group Vision, "Look Beyond".

By using advanced fluorine chemistry technologies, AGC has developed the AsahiGuard E-SERIES, to help our customers maintain their comfortable, convenient lifestyles while simultaneously meeting their environmental goals.

We achieved 100% conversion to PFOA free* three years ahead of the 2015 goal. (*at or above detection limits)



Fluorochemical Functional Products

Surflon

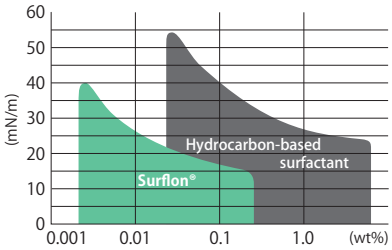
Fluorochemical surfactant

Surflon is a fluorochemical surfactant developed by AGC Seimi Chemical and utilizing techniques cultivated over long years in the field of fluorine chemistry.

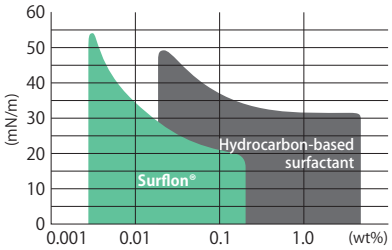
Characteristics

- Significantly reduces the surface tension
- Performance results with small quantity input
- Compatible with any organic solvent

The surface tension of an aqueous solution



The surface tension of an organic solvent



Moldspat

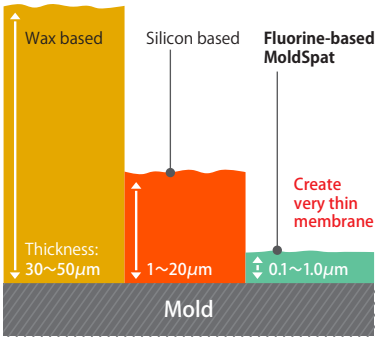
Fluorine-based release agent

When used as a mold release agent, Moldspat provides an extremely low surface energy, displays superior non-adhesion and mold release action

Characteristics

- Can be used in a variety of processing conditions
- Reduced quality defects caused by mold release action
- Cost reduction and improved workability

Release agent coating thickness comparison



SF-Coat Series

Fluorine coating agent

SF-Coat series can solve processing issues caused by the intrusion of flux into electromechanical components

Characteristics

- Repels flux, water, lubricating oil and liquid resin by forming a thin coating on metal and plastics.

www.asahiguard.jp/eng/index.html
www.asahiguard.eu
www.asahiguard.cn
www.seimichemical.co.jp/eng/product/fluoro.html

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