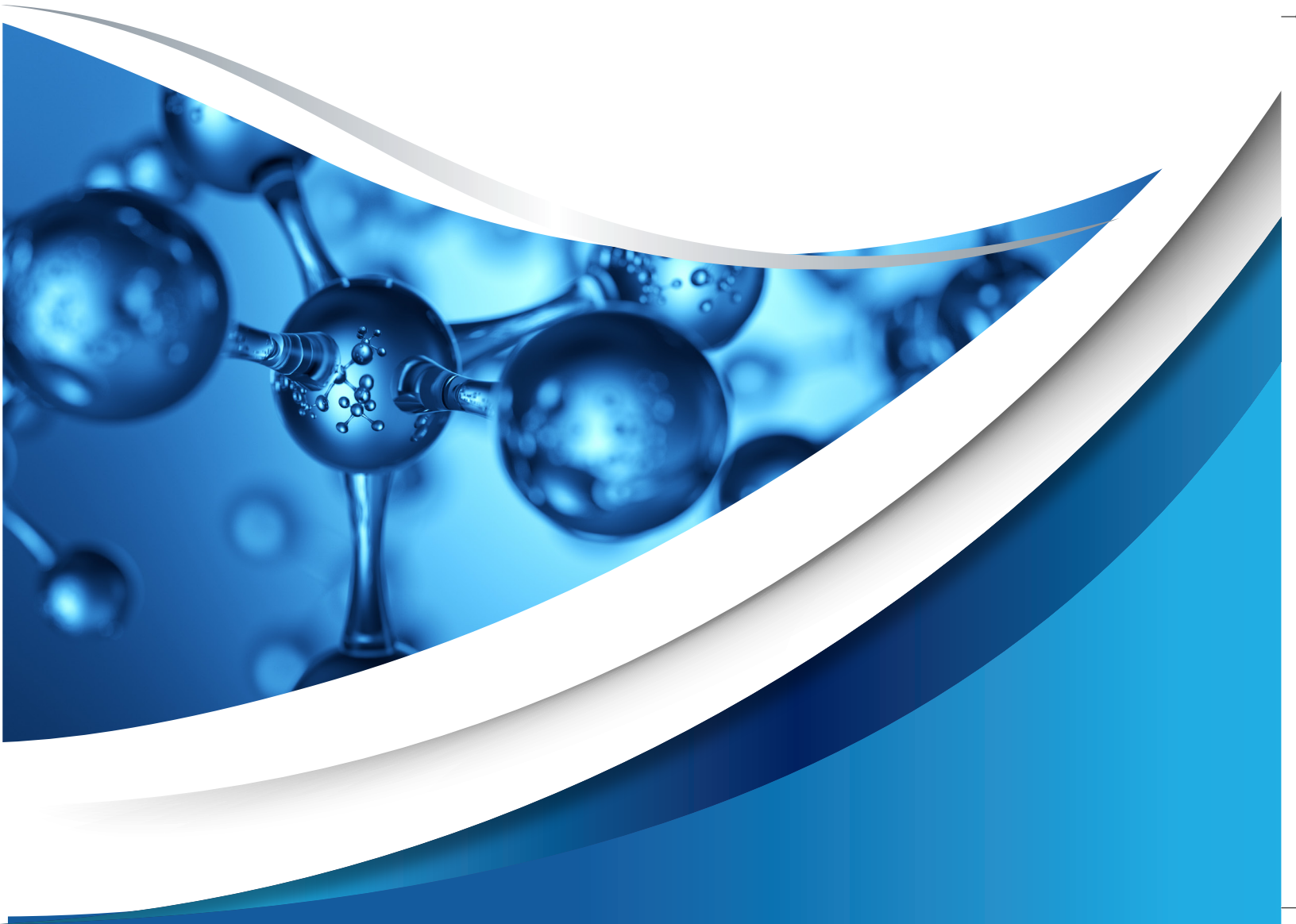




SURFACE & INTERFACE SOLUTION

**HICHEM**





# CEO Message

Hi-Chem is to meet the customer's expectations by pioneering spirit that does not fear failure. We will do our best to become a global chemical company.

Since its foundation in 1997, Hichem has led the steady growth based on its integrity and hard work.

Hichem boasts of quality workforce including the top-level research and development team and the project team, and strenuous research and development activities and venture entrepreneurship.

Based upon such assets, it has successfully built a system under which the company can offer high-quality and competitive products and services to its customers in a timely manner.

Hichem developed outstanding products in various fields such as alcohol-based polyurethane adhesive for food packaging materials and environment-friendly water-based urethane and fluoro-based water/oil repellents. In particular, the alcohol-based polyurethane adhesive for food packaging materials was developed for the first time in Korea by Hichem.

Hichem is also a leading small and medium-sized enterprise in terms of global marketing activities. As its product quality and technology were highly acknowledged by global customers, it established a plant in Indonesia and won the prize for achieving 5 million-dollar exports.

The company is operating ISO-9001 and 14001, PSM, which serve as a measure of product quality, environment management and industrial safety.

Hichem will not settle for the present and make continuous efforts to deliver greater customer delight beyond customer satisfaction with its total management system.

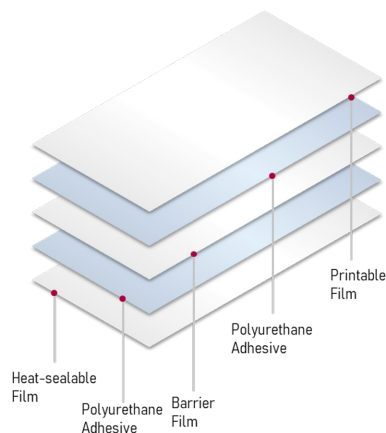
CEO Song Myung-Ho

# BUSINESS AREA

## INTERFACE SOLUTION

- Adhesives for Food Packaging
- Adhesives for Industrial application & Others

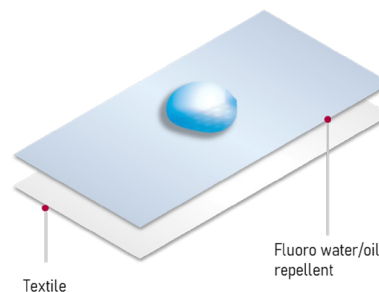
### Polyurethane adhesive for food package



## SURFACE SOLUTION

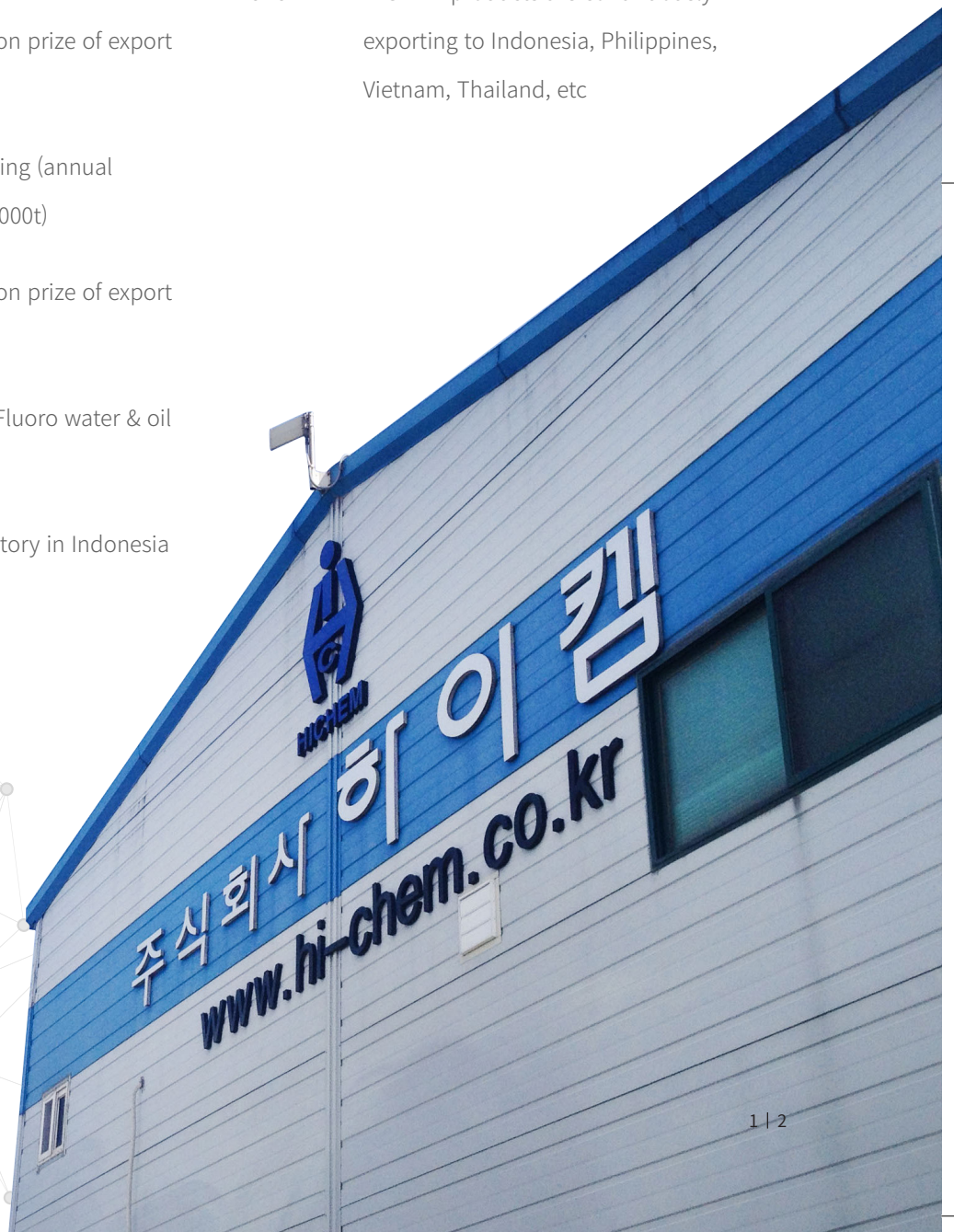
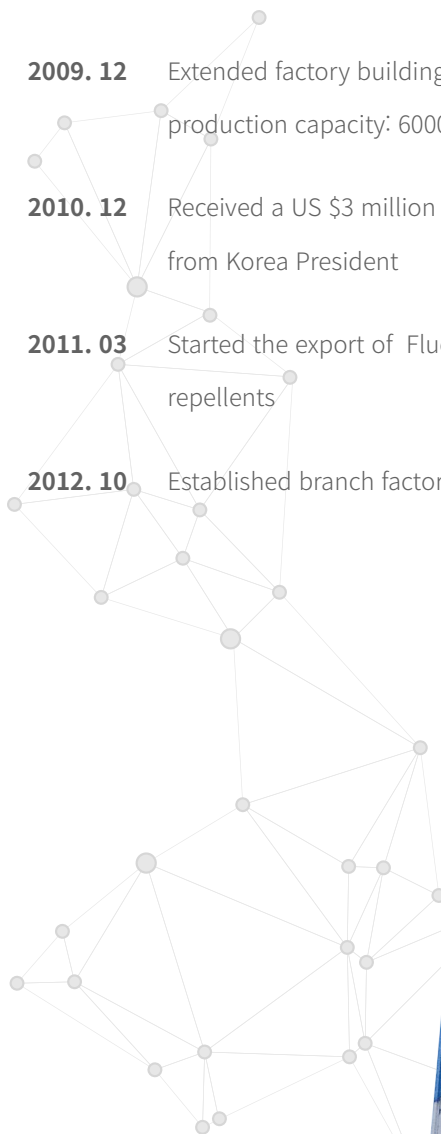
- Fluoro Water and Oil repellents for Textile
- Fluoro Oil repellents for Paper

### Fluoro water/oil repellent for textile



# Introduction of HICHEM

- 1997. 06** Found HICHEM. Established PU laboratory
- 2002. 01** Completed the new factory building in Hwasung City (annual production capacity: 3000t)
- 2005. 01** Developing fluoro water & oil repellents for fiber, paper and leather
- 2007. 08** Started the export of PU adhesives for food package to Indonesia
- 2008. 12** Received a US \$1 million prize of export from Korea President
- 2009. 12** Extended factory building (annual production capacity: 6000t)
- 2010. 12** Received a US \$3 million prize of export from Korea President
- 2011. 03** Started the export of Fluoro water & oil repellents
- 2012. 10** Established branch factory in Indonesia
- 2013. 12** Received a US \$5 million prize of export from Korea President
- 2017** Acquired PSM(Process Safety Management)
- 2019** Developed Fluoro Water & Oil Repellents and Non-fluoro Water Repellents
- 2020. 02** Acquired FDA & REACH certification of Fluoro Water & Oil Repellents
- 2020~** HICHEM products are continuously exporting to Indonesia, Philippines, Vietnam, Thailand, etc



# INTERFACE SOLUTION

Plastic films used for food packaging materials should use polyurethane adhesive with high peel strength (adhesive strength), low temperature and flexibility. They are categorized into solvent-based and non solvent-based adhesives depending on the usage and processing, and in particular, it is needed to carefully select the adhesive for retort pouch as it requires high heat resistance.

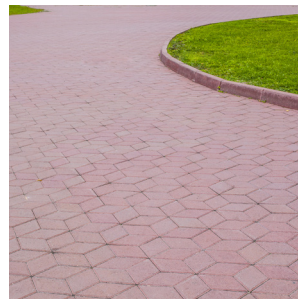


## Adhesives for Food Packaging

Type	Product Name	Solid Content(%)	Viscosity (cps, 25°C)	Type of resin	Solvent Composition	Characteristics	Usage	Packing Unit	
Alcohol Based	2 Component	HIPOL 880F	68 ~ 70	2,000 ~ 4,000	Polyurethane	Methanol	Alcohol Soluble, Low formaldehyde, High solid content, Rapid hardening	Flexible packaging, OPP, CPP, PET, Paper, PVDC, etc	15kg Can, 180kg Drum
		HIPOL 880ET	68 ~ 70	2,000 ~ 5,000	Polyurethane	Ethanol	Alcohol Soluble, Low Formaldehyde, High Solid Content, Rapid Hardening	Flexible packaging, OPP, CPP, PET, Paper, PVDC, etc	15kg Can, 180kg Drum
	Hardner	HIPOL 880H	99 ~ 100	10,000 ~ 14,000	Degeneration Epoxy Resin	-	Alcohol Soluble type	Hardner for HIPOL 880F	20kg Can, 200kg Drum
Solvent Based	1 Component	HIPOL PA-750	69 ~ 71	1,000 ~ 3,000	Polyurethane	EA	General, High workability, Moisture hardening type	Flexible packaging, OPP, CPP, PET, Paper, PVDC, etc	18kg Can
	2 Component	HIPOL PA-275LC	74 ~ 76	2,000 ~ 4,000	Polyurethane	EA	General, High workability	Flexible packaging Film	18kg Can
		HIPOL PA-301	64 ~ 66	2,000 ~ 4,000	Polyurethane	EA	General&Boil, High workability, Highly adhesive to AL	Flexible packaging Film	18kg Can
		HIPOL PA-365	64 ~ 66	2,000 ~ 5,000	Polyurethane	EA	Semi-retort, High adhesiveness	Boil & semi-retort (~120°C)	18kg Can
		HIPOL PA-350	49 ~ 51	1,000 ~ 3,000	Polyurethane	EA	High heat resistance, High adhesiveness	Retort(~120°C), variousFilm	18kg Can
		HIPOL PA-308	59 ~ 61	2,000 ~ 5,000	Polyurethane	EA	High heat resistance, High adhesiveness	Retort(~120°C), Film	18kg Can
		HIPOL PA-375	74 ~ 76	3,000 ~ 5,000	Polyurethane	EA	High solid content, Low formaldehyde, General, Rapid hardening	Flexible packaging Film	18kg Can
	Hardner	HIPOL PM-75	74 ~ 76	1,000~2,500	Polyurethane	EA	Solvent based type	Hardner for HIPOL PA-375	15kg Can
		HIPOL HH-75	74 ~ 76	1,000 ~ 2,000	3-Functional, NCO-prepolymer	EA	Solvent based type	2 Componet Adhesives Hardner	20kg Can
Solvent-Free	1 Component	HIPOL PA-380NS	100	800 ~ 1,200 (at 80°C)	Polyurethane	Nonsolven	General, Moisture hardening type	Flexible packaging, OPP, CPP, PET, Paper, PVDC, etc	12kg Can
	2 Component	HIPOL PA-1050NS	100	1,000~2,000 (at 80°C)	Polyurethane	Nonsolven	Boil, High adhesiveness	Flexible packaging Film	50kg Drum, 200kg Drum
	2 Component Hardner	HIPOL HH-1050	100	800~1,500 (at 80°C)	Polyurethane	Nonsolven	Boil, High adhesiveness	Flexible packaging Film	50kg Drum, 200kg Drum
PRIMER A/C	PRIMER	HIPOL 180AP	17 ~ 19	~ 200	PVB Degeneration resin	Methanol	Good FILM adhesiveness	AL vacuum metalizing Primer	16kg Can
	Anchor Coating	HIPOL PA-185	9 ~ 11	~ 100	Copolymer 2 Component	Water, Methanol	High adhesiveness, High workability	Anchor coating agent for PE extrusion for T-die, Water based	18kg Can
		HIPOL PA-301A	64 ~ 66	2,000 ~ 4,000	Polyurethane	EA	High adhesiveness, High workability	Anchor coation agent for PE extrusion, for T-die, Oil based	18kg Can

## Adhesive for Industrial application & Others

Type	Product Name	Solid Content(%)	Viscosity (cps, 25°C)	Type of resin	Solvent Composition	Characteristics	Usage	Packing Unit	
Adhesive for Industrial application	Adhesives for construction and civil engineering materials	HIPOL 390A/B	Over 95	Thixo type		Heat resistance adhesive strength, SOX & NOX resistance	Adhesive for heat insulating materials, adhesive attaching the foam glass block to the internal surface of chimney of thermal power station	-	
	Industrial adhesives	HIPOL 700	25 ~ 30	500 ~ 1,000	PU 2 component hardening type	Toluene M.E.K	Good initial adhesiveness Good usability	Adhesive for leather (synthetic/artificial leather)	15kg Can
		HIPOL UT-577N	36 ~ 38	2,500 ~ 3,500	PU 2 component hardening type	M.CAceton	Good initial adhesiveness Good usability	AL/steel wire/AL	15kg Can
		HIPOL 321TX	38 ~ 42	1,000 ~ 2,000	Urethane 2 component type	Toluene, Xylene	Good adhesiveness to Velcro and fiber	Velcro impregnation Binder	200kg Drum
	HIPOL ACOL-10	42 ~ 44	1,000 ~ 3,000	Acrylic-urethane 2 component type	-	Good hard-coating	Glossy heat hardening type PC, ABS, high hardness PVC	15kg Can	
Others	Resin for casting and molding	HIPOL 290A/B	99 and over	500 ~ 1,000	PU 2 component hardening type		High leveling, high weather resistance (high heat/low temperature resistance)	Electronic display filling	15kg Can
		HIPOL UM-026A/B	99 and over	500 ~ 1,000	PU 2 component hardening type		Heat hardening System, flexibility	Various molds filling	20kg Can
		HIPOL 90A/B	99 and over	2,000 ~ 4,000	PU 2 component hardening type		Good room temperature hardening properties, good usability	Air conditioning filter Various air filters	20kg Can
		HIPOL PE-70D	Various air filters	100%M : 40~60 T.S : 200~300 Elong : 600%	PU 2 component MOCA hardening		High elasticity, shock sensitivity, low temperature resistance	casting, roll, elastic body	20kg Can
		HIPOL PE-95	Hardness 95	100%M : 130~190 T.S : 450~550 Elong : 140%	PU 2 component MOCA hardening		High wear resistance and mechanical strength	Industrial wheel, machinery components	20kg Can
	Water-based Urethane	HIPOL 101	39 ~ 41	100 and below	Water-based PU 1 component type	Anion	Non-yellowing property, universal binder	Special Ink Binder	20kg PE
	HIPOL 106	37 ~ 39	500 ~ 2,000	Water-based PU 1 component type	Anion	Non-yellowing property, high durability	Adhesive	20kg PE	



# SURFACE SOLUTION

Fluoro-based water and oil repellents can be classified into repellents for textile, paper, leather and buildings. Hichem's products boast of world-class functionality and product quality.

## Fluoro Water/Oil Repellent for Textile

HIGUARD F-9000

C6

Water Repellency

Oil Replency

**Solid content** : 35% ± 1.0  
**Type** : Weakly Cation  
**Usage** : 1.00 %soln ~ 9.00% soln.  
2.00% soln ~ 10.0% soln.

### Characteristic

- Environmental-friendly, not contain PFOA and PFOS
- Excellent Water and Oil repellency for natural fiber
- Highly durable even after home-laundry
- Chemical stability because the emulsion stability is little changed by alternation of PH.

HIGUARD F-9000W

C6

Water Repellency

Oil Replency

**Solid content** : 35% ± 1.0  
**Type** : Weakly Cation  
**Usage** : 1.00 %soln ~ 9.00% soln.  
2.00% soln ~ 10.0% soln.

### Characteristic

- Environmental-friendly, not contain PFOA and PFOS
- Excellent Water repellency for synthetic fiber
- Highly durable even after home-laundry
- Chemical stability because the emulsion stability is little changed by alternation of PH.

HIGUARD F-9050

C6

Water Repellency

Oil Replency

**Solid content** : 30% ± 1.0  
**Type** : Weakly Cation  
**Usage** : 1.00 %soln ~ 9.00% soln.  
2.00% soln ~ 10.0% soln.

### Characteristic

- Environmental-friendly, not contain PFOA and PFOS
- Excellent Water and Oil repellency for
- Highly durable even after home-laundry
- Chemical stability because the emulsion stability is little changed by alternation of PH.

HIGUARD F-8000

C8

Water Repellency

Oil Replency

**Solid content** : 35% ± 1.0  
**Type** : Weakly Cation  
**Usage** : 1.00 %soln ~ 9.00% soln.  
2.00% soln ~ 10.0% soln.

### Characteristic

- Excellent Water and Oil repellency for natural and synthetic fiber
- Highly durable even after home-laundry
- Chemical stability because the emulsion stability is little changed by alternation of PH.

## Non-Flouro Water/Oil Repellent for Textile

HIGUARD NF-184

C0

Water Repellency

Oil Replency

**Solid content** : 34% ± 1.0  
**Type** : Weakly Cation  
**Usage** : 1.00 %soln ~ 9.00% soln.  
2.00% soln ~ 20.0% soln.

### Characteristic

- Environmental-friendly, Fluorine free
- Excellent Water and Oil repellency for natural and synthetic fiber
- Chemical stability because the emulsion stability is little changed by alternation of PH



## Fluoro Water/Oil Repellent for Paper

**HIGUARD CR-65WC**

**C6**

**Water Repellency**

**Oil Replency**

**Solid content** : 20% ± 1.0

**Type** : Weakly Cation

**Usage** : 1.00 %soln. 9.00% soln.  
2.00% soln. 10.0% soln.

### Characteristic

- Environmental-friendly, not contain PFOA and PFOS
- Excellent Water and Oil repellency for Paper
- Chemical stability because the emulsion stability is little changed by alternation of PH.

PRODUCT NAME	TYPE	SOLID CONTENTS	USAGE	WATER REPELLENCY	OIL REPELLENCY
F-9000	C6	35% ± 1.0	Polyester, Nylon, Cotton	◎	◎
F-9000W	C6	35% ± 1.0	Polyester, Nylon	◎	○
F-9050	C6 Low cost	30% ± 1.0	Polyester, Nylon, Cotton	○	○
F-8000	C8	35% ± 1.0	Polyester, Nylon, Cotton	◎	◎
NF-184	Non-Flouro	34% ± 1.0	Polyester, Nylon, Cotton	○	○
CR-65WC	C6	20% ± 1.0	Paper	◎	◎



## SURFACE & INTERFACE SOLUTION



### CONTACT US

Contact Number +82 031-355-3066  
Contact Mail hichemsongyh@gmail.com hichem.6pfe@gmail.com  
Location 31-23, Chungwon-ro, Mado-myun, Hwaseong-si, Gyeonggi-do, South Korea

Please Visit Our Website [www.hi-chem.co.kr/eng](http://www.hi-chem.co.kr/eng)