**Ethylene Copolymer Water Based Emulsion** 



# SUMIELITE®



![](_page_0_Picture_4.jpeg)

## **SUMIKAFLEX \*• SUMIELITE \* Products List (S:** Sumikaflex \*, SE: Sumielite \*)

Composition	Cred	Properties of emulsion						Properties of film [at 23°C]			Footures		Cueda
Composition	Grad	N. V. [%]	Viscosity [mPa∙s, BL-60, 25℃]	рН [25 <sup>°</sup> С]	Surfactants	Ave. Particle size [μm]	М F Т <sup>*</sup> [℃]	Т g [°С]	Tensile [MPa]	Elongation [%]	Features	Iviain application	Grade
	S-201H	Q 55 ~ 57	2500 <b>~</b> 5500	3~6	PVA / Nonionic	0.6	0	-20	4.5	1000	High ethylene content, water resistance	Plastic lamination, adhesion for all paper and fabrics	S-201HQ
	S-305H	Q 49 ~ 51	3500 <b>~</b> 6000	4 <b>~</b> 7	PVA	0.8	3	7	18.0	420	High viscosity, hard type	Paper	S-305HQ
	S-328H	Q 55 ~ 57	3000 <b>~</b> 5000	4 <b>~</b> 7	PVA	0.6	0	-5	9.0	700	High viscosity, soft type	Wood, paper	S-328HQ
	S-355H	Q 54 ~ 56	500 <b>~</b> 2000	4 <b>~</b> 7	PVA	0.7	3	10	20.6	420	Functionalized with acid, hard type	Construction, wood, paper	Aper, paint S-400HQ s-401HQ and fabrics S-408HQE
	S-400H	Q 54 ~ 56	1100 <b>~</b> 1600	4 <b>~</b> 7	PVA	0.7	0	012.7550StandardGeneral adhe-186.2850High ethylene contentAdhesives for	General adhesives, construction, wood, paper, paint	S-400HQ			
	S-401H	Q 54 ~ 56	800 <b>~</b> 1600	4 <b>~</b> 7	PVA	0.8	0	-18	6.2	850	High ethylene content	Adhesives for paper and textile	S-401HQ
	S-408H	QE 49 ~ 51	50 <b>~</b> 500	4 <b>~</b> 7	PVA	0.9	0	-30	5.0	650	Ultra high ethylene content	Plastic lamination, adhesion for all paper and fabrics	S-408HQE
	S-410H	Q 53 ~ 56	1500 <b>~</b> 4000	4 <b>~</b> 7	PVA	0.9	0	-18	8.9	700	High ethylene content, high M.W.	Adhesives for paper and textile	S-410HQ
	S-450H	Q 54 ~ 56	2000 <b>~</b> 4000	4 <b>~</b> 7	PVA	0.7	0	0	13.0	540	High viscosity	General adhesives, construction, wood, paper, paint	S-450HQ S-455HQ
	S-455H	Q 54 ~ 57	2000 <b>~</b> 4000	4 <b>~</b> 7	PVA	0.8	0	0	11.0	500	High viscosity, high M.W.	Glue for sheet lamination	S-455HQ
-	S-456H	Q 54 ~ 56	2000 <b>~</b> 6000	4 <b>~</b> 7	PVA	0.8	0	0	12.0	550	Functionalized with acid, high M.W.	Glue for sheet lamination	S-456HQ
EVA	S-460H	Q 59 ~ 61	1600 <b>~</b> 3500	4 <b>~</b> 7	PVA	PVA 0.7 0 0 13.0 620 High solid content	High solid content	Wood, paper	S-460HQ				
	S-465H	Q 64 ~ 66	300 ~ 3000	4 <b>~</b> 7	PVA / Nonionic	1.0	0	0	9.6	750	High solid content, water resistance	Wood, paper	S-465HQ
	S-467H	Q 64 ~ 66	2000 <b>~</b> 6000	4 <b>~</b> 7	PVA / Nonionic	0.8	0	0	5.8	8 790 High solid content Wood, paper	Wood, paper	S-467HQ	
	S-7400H	IQ 70 ~ 74	2000 <b>~</b> 6000	4 <b>~</b> 7	PVA / Nonionic	0.8	0	0	5.4	810	Ultra high solid content	Inkjet paper, interior paint	S-7400HQ
	S-470H	Q 54 ~ 56	4 ~ 56 2000 ~ 4000 4	4 <b>~</b> 7	PVA	0.8	0	0	13.0	530	Low T.I.	Wood, paper	S-470HQ
	S-478HQ 59 ~ 6	Q 59 ~ 61	1000 <b>~</b> 5000	4 <b>~</b> 7	PVA	0.8	0	0	13.0	620	High solid content, Low T.I.	Wood, paper	S-478HQ
	S-483H	Q 54 ~ 56	400 <b>~</b> 1500	4 <b>~</b> 7	PVA	0.6	0	0	13.5	400	Mechanical stability, low VOC	Paper	S-478HQ S-483HQ
	S-510H	Q 54 ~ 56	10 ~ 400	4 <b>~</b> 7	HEC / Nonionic	0.7	0	0	5.8	800	Pigment dispersibility	Adhesives for paper and textile, paint	S-510HQ
	S-752 49 ~	49 <b>~</b> 51	400 ~ 1300	4 <b>~</b> 7	PVA / Nonionic	0.4	9	15	23.0	360	Self cross-linking, hard type	Non-woven fabric binder, impregnated paper binder	S-752
	S-755	49 <b>~</b> 52	500 <b>~</b> 1500	4 <b>~</b> 7	PVA / Nonionic	0.5	0	-15	1.0	> 1500	Self cross-linking, soft type	Non-woven fabric binder, impregnated paper binder	S-752 S-755
	SDX-51	00 48 ~ 51	10 ~ 400	3~8	Special	0.7	0	0	-	-	Water and oil repellent	Water shedding fabric and paper	SDX-5100
EVA – S- Vinyl chloride S-	S-801H	Q 49 ~ 51	700 <b>~</b> 2500	4 <b>~</b> 7	PVA	0.9	0	0	12.0	580	Used PVA as protective colloid	EPI glue for wood	S-801HQ
	S-808F	IQ 49 ~ 51	200 ~ 1500	4 <b>~</b> 7	PVA	0.6	30	25	23.0	40	Used PVA as protective colloid	EPI glue for wood	S-808HQ
	S-830	49 <b>~</b> 51	10 ~ 200	4 <b>~</b> 7	HEC / Nonionic	0.5	30	20	25.0	200	Self cross-linking	Non-woven fabric binder, impregnated paper binder	S-830
	S-850H	Q 49 ~ 51	10 ~ 100	4 <b>~</b> 7	HEC / Nonionic	0.6	40	30	29.0	0	Modified with functional group	Non-woven fabric binder, EPI glue for wood	S-850HQ
EVA – Acryl	S-900H	IL 59 ~ 61	10 ~ 500	4 <b>~</b> 7	Special	0.4	0	-20	0.9	> 1500	Functionalized with acrylate	Carpet and sheet backing, non-woven fabric binder	S-900HL
	S-950H	Q 52 ~ 54	500 <b>~</b> 2000	4 <b>~</b> 7	PVA / Nonionic	0.6	0	-30	0.2	> 1500	Tackiness property	Contact adhesive, water proof sheet adhesive	S-950HQ
EVA –	S-951H	Q 54 ~ 56	100 ~ 1000	4 <b>~</b> 7	PVA / Nonionic	0.8	0	-25	2.6	1200	Tackiness property	Plastic lamination, elastic paint, additive for mortar	S-951HQ
special ester	S-955H	Q 52 ~ 54	100 <b>~</b> 500	4 <b>~</b> 7	PVA / Nonionic	0.6	0	-30	0.4	> 1500	Tackiness property	Contact adhesive, water proof sheet adhesive	S-955HQ
Ethylene – Acryl – Special ester	S-395	) 59 <b>~</b> 61	4000 ~ 7000	7 <b>~</b> 9	Special	0.9	0	-50	0.2	> 1500	Tackiness property and cohesion	Pressure sensitive adhesive	S-3950
Ethylene –	SE-101	0 49 <b>~</b> 51	1 <b>~</b> 50	4 <b>~</b> 9	Anionic	0.2	2	0	1.5	340	Solf cross-linking flame resistance	Carpet and sheet backing, non-woven fabric binder,	SE-1010
Vinyl chloride	SE-132	0 49 - 51	1 ~ 50	4~8	Anionic	0.2	40 * Minimum 5	30	34.0	50	sen cross mixing, name resistance	PVC lamination, coating processing	SE-1320
EVA Powder		Properties of powder					Prope	erties of 5	50% aqueou	dispersion			
		Appearance	Volatile content [%]	Powder particle size [μm]		Bulk density [g/cm³]		Viscosity [mPa•s]		рН	MFT [°C]	Main application	
RP-100S		White powder	< 2		Арр. 70	App. 0.4		20	00	5 <b>~</b> 6	0 Construction (four	ndation adjuster, joint materials, finishing dressed lumber),	agant

![](_page_1_Picture_2.jpeg)

## **Products Relationship of SUMIKAFLEX® and SUMIELITE®**

![](_page_2_Figure_1.jpeg)

## **About SUMIKAFLEX**<sup>®</sup> and SUMIELITE<sup>®</sup> Products

Sumikaflex<sup>®</sup> series is a product line of water based emulsions for various forms of polymer compositions, as typified by ethylene-vinyl acetate copolymer resins, ternary copolymer resins composed of ethylene, vinyl acetate, and vinyl chloride, and acrylic ethylene-vinyl acetate copolymer resins.

Sumielite<sup>®</sup> series is a product line of water based emulsions composed of ethylene-vinyl chloride copolymer resins.

A film formed from <u>Sumikaflex®</u> is highly adhesive, adequately strong and elastic, and furthermore, possesses excellent resistance to alkalis and water, and durability in particular, with unique polymer structures. A film formed from Sumielite<sup>®</sup> is highly transparent and glossy and has excellent resistance to water, solvents, and alkalis as well as good gas barrier property and durability. Along with these characteristics, the most distinctive characteristic of Sumielite<sup>®</sup> is its high flame retardance.

## "The advantages of using ethylene as copolymerized monomer"

- 1. Excellent in plasticizing effect as an internal plasticizing monomer
- 2. A wide variety of polymer designing is possible with various sorts of other copolymerized monomers
- 3. Excellent in water and alkaline resistance
- 4. Excellent in weather resistance
- 5. Good affinity for non-polar materials such as plastics or synthetic fabrics

Our various products are used in wide application as shown in the right page. We are sure that these products must be of your help.

## **Manufacturing process of EVA emulsion**

![](_page_3_Figure_12.jpeg)

## **Use example**

## High molecular weight series

S-455HQ is used as adhesives for the sheet laminated plywood for interior materials.

It has good heat resistance and organic solvent resistance because of the ultra high molecular weight. It's noteworthy that S-455HQ has excellent heat resistant creeping property.

\* TIP; Toluene insoluble residue percent (polymer molecular weight index)

![](_page_3_Picture_18.jpeg)

Test condition:

## Self-crosslinking series

S-700 series of products are used as binder for, among others, non-woven pulp, fabrics, and filter products.

It is available to improve the water resistance, heat resistance, and film strength because of its self-crosslinking property.

![](_page_3_Picture_24.jpeg)

## Vinyl Chloride co-polymerized series

S-800HQ series and Sumielite® series of products have high water resistance and flame retardance by copolymerizing vinyl chloride. These products are used as binder for filter/fibers and as backing adhesives for carpets and mats for automobiles.

![](_page_3_Picture_28.jpeg)

![](_page_3_Picture_29.jpeg)

Appearance

![](_page_3_Picture_31.jpeg)

![](_page_3_Picture_32.jpeg)

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## Flame retardancy of each resin

	LOI (%)
S-752	19.7
S-830	23.2
S-850HQ	23.7
SE-1010	24.6
SE-1320	30.3
SBR	17.8
St-Acryl	18.1
Acryl	17.5
	LOI : Limited Oxygen Index

![](_page_4_Picture_0.jpeg)

## **Functional Polymers Division**

## Head Office

Kitahama Chou Building 3F, 2-22, Kitahama 2-chome,Chuo-ku, Osaka, Japan 541-0041 TEL: +81-6-4706-9304 FAX: +81-6-4706-9310

## Tokyo Office

Kayabacho Takagi Building 3F, 1-8, Nihonbashi-koamicho, Chuo-ku, Tokyo, Japan 103-0016 TEL: +81-3-6837-9060 FAX: +81-3-6837-9064

## Osaka Laboratories

1-98, Kasugade-Naka 3-Chome, Konohana-Ku, Osaka, Japan 554-8558

### Remarks

The data and contents described in this document are based on our laboratory research and survey and are believed to be reliable enough, but we do not guarantee it.

### Handling Precautions

To prevent the contact to eyes, skin or clothes, wear the chemical safety goggles or glasses and impervious gloves. If you got eye contact, begin to rinse with water as soon as possible and rinse cautiously for over 15 minutes. If you got skin contact, gently wash with plenty of soap and water. In case of the storage, protect from freezing and direct sunlight, and avoid the long term storage. Please check the SDS of the each products to confirm the more information.