



Shin-Etsu Silicone

Reactive & Non-Reactive Modified Silicone Fluid

With various organic groups attached to some of the silicon atoms, our modified silicone fluids offer the features of dimethyl silicone fluid, plus an array of other functions.

C O N T E N T S

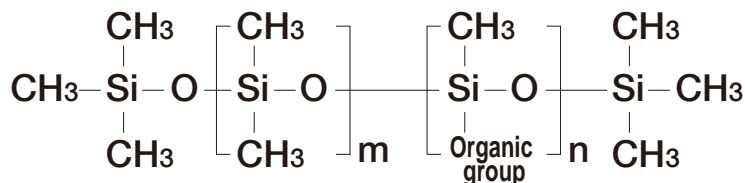
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The reactive and non-reactive silicone fluids in this catalog are arranged by molecular structure. If you have a product in mind that is not featured in this catalog, we may be able to offer trial production. Don't hesitate to consult with a Shin-Etsu representative for details.

Reactive Silicone Fluids

Reactive Silicone Fluids

Side chain type




Amino-modified [side chain type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Functional group equivalent weight (FGEW) [g/mol] | Features |
|-------------------|---|--------------|---------------------------------------|-------------------------|-------------------------|---|--|
| Mono amino | -RNH ₂ | KF-868 | 90 | 0.95 | 1.403 | 8,800 | Water repellency Reactive Adsorptive Good lubricity Good releasability |
| | | KF-865 | 110 | 0.97 | 1.405 | 5,000 | |
| | | KF-864 | 1,700 | 0.98 | 1.406 | 3,800 | |
| Diamino | -RNR'H H | KF-859 | 60 | 0.96 | 1.403 | 6,000 | |
| | | KF-393 | 70 | 0.98 | 1.422 | 350 | |
| | | KF-860 | 250 | 0.97 | 1.404 | 7,600 | |
| | | KF-880 | 650 | 0.98 | 1.407 | 1,800 | |
| | | KF-8004 | 800 | 0.98 | 1.408 | 1,500 | |
| | | KF-8002 | 1,100 | 0.98 | 1.408 | 1,700 | |
| | | KF-8005 | 1,200 | 0.97 | 1.403 | 11,000 | |
| | | KF-867 | 1,300 | 0.98 | 1.407 | 1,700 | |
| | | KF-8021 | 15,000 | 0.97 | 1.403 | 55,000 | |
| | | KF-869 | 1,500 | 0.97 | 1.405 | 3,800 | |
| KF-861 | 3,500 | 0.98 | 1.408 | 2,000 | | | |
| Amino-Polyether | -RNH ₂ -R(C ₂ H ₄ O) _a (C ₃ H ₆ O) _b R' | X-22-3939A | 3,300 | 1.03 | 1.448 | 1,800 | Reactive Compatibility |
| Special amino | — ※ | KF-877 | 5,700 | 0.98 | 1.406 | 5,200 | Low yellowing Adsorptive |
| | | KF-889 | 500 | 1.00 | 1.429 | 3,000 | |

※ : Please contact our Sales Department for further information.

Epoxy-modified-1 [side chain type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Functional group equivalent weight (FGEW) [g/mol] | Features |
|--------------------------------|--|--------------|---------------------------------------|-------------------------|-------------------------|---|--|
| Epoxy | -RCH-CH ₂ O | X-22-343 | 25 | 1.01 | 1.423 | 525 | Reactive Adsorptive Good releasability |
| | | KF-101 | 1,500 | 1.01 | 1.437 | 350 | |
| | | KF-1001 | 17,000 | 0.98 | 1.407 | 3,500 | |
| Epoxy (side-chain phenyl type) | | X-22-2000 | 190 | 1.04 | 1.443 | 620 | Reactive Compatibility |
| Alicyclic epoxy | -R-  | X-22-2046※ | 45 | 0.96 | 1.474 | 600 | Reactive Adsorptive Good releasability |
| | | KF-102 | 3,500 | 0.97 | 1.408 | 3,600 | |
| Epoxy - Polyether | -R-CH-CH ₂ O -R(C ₂ H ₄ O) _a (C ₃ H ₆ O) _b R' | X-22-4741 | 350 | 1.06 | 1.448 | 2,500 | Reactive Compatibility |
| | | KF-1002 | 4,500 | 1.00 | 1.426 | 4,300 | |

※ : Active ingredient 50% (toluene dilution)

Epoxy-modified-2 [side chain type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Functional group equivalent weight (FGEW) [g/mol] | Features |
|-------------------|--|--------------|---------------------------------------|-------------------------|-------------------------|---|---------------------------|
| Epoxy-Aralkyl | $\begin{array}{c} \text{—RCH—CH}_2 \\ \quad \quad \quad \diagdown \quad / \\ \quad \quad \quad \quad \quad \text{O} \\ \text{—CH}_2\text{—CH—} \text{C}_6\text{H}_5 \\ \quad \quad \quad \\ \quad \quad \quad \text{CH}_3 \end{array}$ | KF-1005 | 2,500 | 1.10 | 1.484 | 250 | Reactive Compatibility |

Carbinol-modified [side chain type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Hydroxyl group value [mgKOH/g] | Features |
|-------------------|---------------|--------------|---------------------------------------|-------------------------|-------------------------|--------------------------------|--|
| Carbinol | —ROH | X-22-4039 | 90 | 0.99 | 1.413 | 58 | Reactive Adsorptive Good releasability Antifouling property |
| | | X-22-4015 | 130 | 0.98 | 1.408 | 30 | |

Note: functional group equivalent weight [g/mol] = 56,000/hydroxyl group value [mgKOH/g]

Mercapto-modified [side chain type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Functional group equivalent weight (FGEW) [g/mol] | Features |
|-------------------|---------------|--------------|---------------------------------------|-------------------------|-------------------------|---|------------------------|
| Mercapto | —RSH | KF-2001 | 200 | 0.98 | 1.410 | 1,900 | Reactive Adsorptive |
| | | KF-2004 | 300 | 0.97 | 1.404 | 30,000 | |

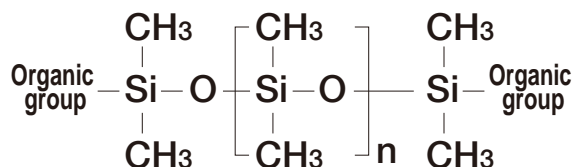
Carboxyl-modified [side chain type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Functional group equivalent weight (FGEW) [g/mol] | Features |
|-------------------|---------------|--------------|---------------------------------------|-------------------------|-------------------------|---|--|
| Carboxyl | —RCOOH | X-22-3701E | 2,000 | 0.98 | 1.409 | 4,000 | Reactive Good lubricity Good releasability |

Methylhydrogen silicone fluid [side chain type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Functional group equivalent weight (FGEW) [g/mol] | Features |
|-------------------|---------------|--------------|---------------------------------------|-------------------------|-------------------------|---|--|
| Hydrogen | —H | KF-99 | 20 | 1.00 | 1.396 | 60 | Reactive Water repellency Good releasability |
| | | KF-9901 | 20 | 0.97 | 1.399 | 140 | |


Dual-end type



Amino-modified [dual-end type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Functional group equivalent weight (FGEW) [g/mol] | Features |
|-----------------------------------|-------------------|--------------|---------------------------------------|-------------------------|-------------------------|---|---|
| Amino | -RNH ₂ | PAM-E | 4 | 0.90 | 1.448 | 130 | Reactive Adsorptive Good releasability Flexibility |
| | | KF-8010 | 12 | 1.00 | 1.418 | 430 | |
| | | X-22-161A | 25 | 0.97 | 1.411 | 800 | |
| | | X-22-161B | 55 | 0.97 | 1.408 | 1,500 | |
| | | KF-8012 | 90 | 0.97 | 1.407 | 2,200 | |
| | | KF-8008 | 450 | 0.97 | 1.405 | 5,700 | |
| Amino (side-chain phenyl type) | | X-22-1660B-3 | 550 | 1.07 | 1.497 | 2,200 | Reactive Compatibility |
| | | X-22-9409 | 105 | 1.05 | 1.500 | 670 | |

Epoxy-modified [dual-end type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Functional group equivalent weight (FGEW) [g/mol] | Features |
|-------------------|--|--------------|---------------------------------------|-------------------------|-------------------------|---|---|
| Epoxy | -RCH-CH ₂ O | X-22-163 | 15 | 1.00 | 1.450 | 200 | Reactive Adsorptive Good releasability Flexibility |
| | | KF-105 | 15 | 0.99 | 1.422 | 490 | |
| | | X-22-163A | 30 | 0.98 | 1.413 | 1,000 | |
| | | X-22-163B | 60 | 0.98 | 1.409 | 1,800 | |
| | | X-22-163C | 120 | 0.98 | 1.408 | 2,700 | |
| Alicyclic epoxy | -R  | X-22-169AS | 30 | 0.99 | 1.433 | 500 | |
| | | X-22-169B | 70 | 0.98 | 1.412 | 1,700 | |

Carbinol-modified [dual-end type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Hydroxyl group value [mgKOH/g] | Features |
|-------------------|---------------|--------------|---------------------------------------|-------------------------|-------------------------|--------------------------------|---|
| Carbinol | -ROH | KF-6000 | 35 | 0.98 | 1.422 | 120 | Reactive Good releasability Oxygen permeability |
| | | KF-6001 | 45 | 0.98 | 1.413 | 62 | |
| | | KF-6002 | 70 | 0.98 | 1.409 | 35 | |
| | | KF-6003 | 110 | 0.98 | 1.407 | 22 | |

Note: functional group equivalent weight [g/mol] = 56,000/hydroxyl group value [mgKOH/g]

Methacryl-modified [dual-end type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Functional group equivalent weight (FGEW) [g/mol] | Features |
|-------------------|--|--------------|---------------------------------------|-------------------------|-------------------------|---|---|
| Methacryl | -ROCC(=CH ₂) CH ₃ | X-22-164 | 10 | 0.97 | 1.450 | 190 | Reactive Adsorptive Oxygen permeability |
| | | X-22-164AS | 12 | 0.97 | 1.425 | 450 | |
| | | X-22-164A | 25 | 0.98 | 1.415 | 860 | |
| | | X-22-164B | 55 | 0.98 | 1.410 | 1,600 | |
| | | X-22-164C | 90 | 0.98 | 1.408 | 2,400 | |
| | | X-22-164E | 190 | 0.97 | 1.406 | 3,900 | |

Polyether-modified [dual-end type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Hydroxyl group value [mgKOH/g] | Features |
|-------------------|---|--------------|---------------------------------------|-------------------------|-------------------------|--------------------------------|---|
| Polyether | $-\text{R}(\text{C}_2\text{H}_4\text{O})_a(\text{C}_3\text{H}_6\text{O})_b\text{H}$ | X-22-4952 | 100 | 0.99 | 1.428 | 50 | Reactive Good releasability Compatibility |
| | | X-22-4272 | 270 | 1.02 | 1.403 | 50 | |
| | | KF-6123 | 420 | 1.03 | 1.434 | 50 | |

Note: functional group equivalent weight [g/mol] = 56,000/hydroxyl group value [mgKOH/g]


Mercapto-modified [dual-end type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Functional group equivalent weight (FGEW) [g/mol] | Features |
|-------------------|---------------|--------------|---------------------------------------|-------------------------|-------------------------|---|------------------------|
| Mercapto | -RSH | X-22-167B | 55 | 0.97 | 1.411 | 1,700 | Reactive Adsorptive |
| | | X-22-167C | 90 | 0.97 | 1.408 | 2,300 | |

Carboxyl-modified [dual-end type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Functional group equivalent weight (FGEW) [g/mol] | Features |
|-------------------|---------------|--------------|---------------------------------------|-------------------------|-------------------------|---|---|
| Carboxyl | -RCOOH | X-22-162C | 220 | 0.98 | 1.406 | 2,300 | Reactive Good releasability Good lubricity Flexibility |

Phenol-modified [dual-end type]


| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Hydroxyl group value [mgKOH/g] | Features |
|-------------------|---|--------------|---------------------------------------|-------------------------|-------------------------|--------------------------------|----------|
| Phenol |  | KF-2201 | 95 | 0.99 | 1.421 | 38 | Reactive |

Note: functional group equivalent weight [g/mol] = 56,000/hydroxyl group value [mgKOH/g]

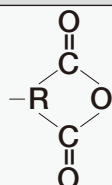
Silanol end-capped [dual-end type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Functional group equivalent weight (FGEW) [g/mol] | Features |
|-------------------|---------------|--------------|---------------------------------------|-------------------------|-------------------------|---|----------|
| Silanol | -OH | X-21-5841 | 30 | 0.970 | 1.404 | 500 | Reactive |
| | | KF-9701 | 60 | 0.977 | 1.404 | 1,500 | |

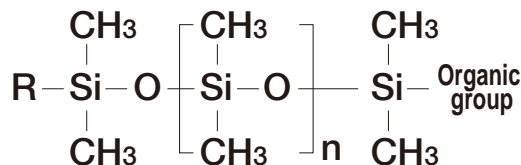
Acrylic-modified [dual-end type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Functional group equivalent weight (FGEW) [g/mol] | Features |
|-------------------|---|--------------|---------------------------------------|-------------------------|-------------------------|---|----------|
| Acrylic |  | X-22-2445 | 55 | 0.98 | 1.407 | 1,600 | Reactive |

Carboxylic acid anhydride-modified [dual-end type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Functional group equivalent weight (FGEW) [g/mol] | Features |
|--|---|---------------|---------------------------------------|-------------------------|-------------------------|---|---------------------------|
| Carboxylic acid anhydride |  | X-22-168AS | 160 | 1.03 | 1.432 | 500 | Reactive |
| | | X-22-168A | 140 | 1.01 | 1.418 | 1,000 | |
| | | X-22-168B | 180 | 1.00 | 1.412 | 1,600 | |
| Carboxylic acid anhydride (side-chain phenyl type) | | X-22-168-P5-B | 1,300 | 1.09 | 1.498 | 2,100 | Reactive Compatibility |

Single-end type



Single-end, reactive, modified [Single-end type]

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Functional group equivalent weight (FGEW) [g/mol] | Features |
|-------------------|---|--------------|---------------------------------------|-------------------------|-------------------------|---|--|
| Epoxy | $\begin{array}{c} -\text{RCH}-\text{CH}_2 \\ \\ \text{O} \end{array}$ | X-22-173BX | 30 | 0.97 | 1.408 | 2,500 | Reactive Good releasability Good lubricity Water repellency Antifouling property |
| | | X-22-173DX | 60 | 0.97 | 1.406 | 4,600 | |
| Carbinol | -ROH | X-22-170BX | 40 | 0.97 | 1.407 | 20* | |
| | | X-22-170DX | 65 | 0.97 | 1.406 | 12* | |
| Diol | $\begin{array}{c} \text{ROH} \\ \\ -\text{R}'-\text{C}-\text{R}'' \\ \\ \text{ROH} \end{array}$ | X-22-176DX | 130 | 0.97 | 1.409 | 35* | |
| | | X-22-176F | 500 | 0.98 | 1.405 | 9* | |
| | | X-22-176GX-A | 400 | 0.97 | 1.405 | 8* | |
| Methacryl | $\begin{array}{c} \text{O} \\ \\ -\text{ROCC}=\text{CH}_2 \\ \\ \text{CH}_3 \end{array}$ | X-22-174ASX | 9 | 0.95 | 1.415 | 900 | |
| | | X-22-174BX | 27 | 0.96 | 1.409 | 2,300 | |
| | | KF-2012 | 60 | 0.97 | 1.407 | 4,600 | |
| | | X-22-2426 | 200 | 0.97 | 1.405 | 12,000 | |
| | | X-22-2404 | 5 | 0.93 | 1.418 | 420 | |

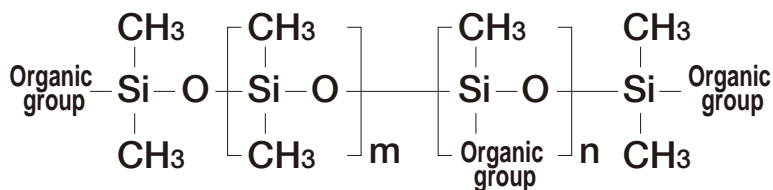
* : hydroxyl group value [mgKOH/g], functional group equivalent weight [g/mol] = 56,000/hydroxyl group value [mgKOH/g]

Single-end carboxyl-modified

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Functional group equivalent weight (FGEW) [g/mol] | Features |
|-------------------|---------------|--------------|---------------------------------------|-------------------------|-------------------------|---|--|
| Carboxyl | -RCOOH | X-22-3710* | 60 | 0.97 | 1.412 | 1,450 | Reactive Good releasability Good lubricity |

* : Including non-reactive & dual-end type carboxyl-modified silicone fluid

Side-chain, dual-end



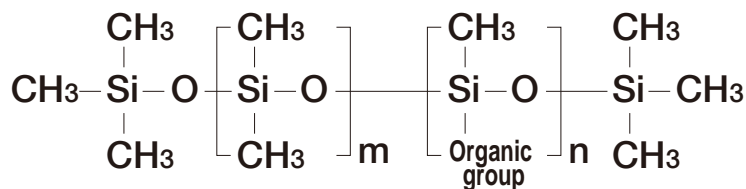
| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Functional group equivalent weight (FGEW) [g/mol] | Features |
|------------------------------------|---|--------------|---------------------------------------|-------------------------|-------------------------|---|--------------------------------|
| Side-chain amino, dual-end methoxy | -RNH ₂ , -OR' | KF-857 | 65 | 0.98 | 1.411 | 790 | Reactive Adsorptive |
| | | KF-8001 | 240 | 0.98 | 1.406 | 1,900 | |
| | | KF-862 | 650 | 0.98 | 1.407 | 1,900 | |
| | | KF-858* | 23 | 0.88 | 1.394 | — | |
| Epoxy | $\begin{array}{c} -\text{RCH}-\text{CH}_2 \\ \\ \text{O} \end{array}$ | X-22-9002 | 900 | 0.98 | 1.406 | 5,000 | Reactive Good releasability |

* : Active ingredient 50% (acetate IPA dilution)


Non-Reactive Silicone Fluids

■ Non-Reactive Silicone Fluids


Side chain type



Polyether-modified

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | H L B | Features |
|--------------------------------------|---|--------------|---------------------------------------|-------------------------|-------------------------|-------|---|
| Polyether | -R(C ₂ H ₄ O) _a (C ₃ H ₆ O) _b R' | KF-351A | 70 | 1.06 | 1.450 | 12 | Water soluble Water dispersible Easily emulsifiable Low surface tension Good permeability Anti-fogging property Compatibility |
| | | KF-352A | 1,600 | 1.03 | 1.446 | 7 | |
| | | KF-353 | 430 | 1.04 | 1.438 | 10 | |
| | | KF-354L | 200 | 1.10 | 1.463 | 16 | |
| | | KF-355A | 150 | 1.07 | 1.453 | 12 | |
| | | KF-615A | 920 | 1.05 | 1.451 | 10 | |
| | | KF-945 | 130 | 1.00 | 1.420 | 4 | |
| | | KF-640 | 20 | 1.01 | 1.444 | 14 | |
| | | KF-642 | 50 | 1.04 | 1.443 | 12 | |
| | | KF-643 | 19 | 1.01 | 1.442 | 14 | |
| | | KF-644 | 38 | 1.02 | 1.446 | 11 | |
| | | KF-6020 | 180 | 1.00 | 1.417 | 4 | |
| | | KF-6204 | 70 | 1.05 | 1.451 | 10 | |
| X-22-4515 | 4,000 | 1.03 | 1.445 | 5 | | | |
| Polyether (odorless) | -R(C ₂ H ₄ O) _a (C ₃ H ₆ O) _b R' | KF-6011 | 130 | 1.07 | 1.450 | 12 | |
| | | KF-6012 | 1,500 | 1.03 | 1.448 | 7 | |
| | | KF-6015 | 130 | 1.00 | 1.419 | 5 | |
| | | KF-6017 | 530 | 1.01 | 1.420 | 5 | |
| Polyether, long-chain alkyl, aralkyl | -R(C ₂ H ₄ O) _a (C ₃ H ₆ O) _b R' | X-22-2516 | 70 | 0.96 | 1.424 | 1 | Good releasability Compatibility |
| | -CaH _{2a+1} | | | | | | |
| | -CH ₂ -CH-  CH ₃ | | | | | | |


Aralkyl-modified

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Features |
|-------------------|---|--------------|---------------------------------------|-------------------------|-------------------------|---|
| Aralkyl | -CH ₂ -CH-  CH ₃ | KF-410 | 900 | 1.02 | 1.480 | Good releasability Compatibility Good lubricity |

Fluoroalkyl-modified

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Features |
|-------------------|--|-----------------|---------------------------------------|-------------------------|-------------------------|---|
| Fluoroalkyl | —CH ₂ CH ₂ CF ₃ | FL-5 | 120 | 0.99 | 1.400 | Good lubricity Chemical resistance Oil & solvent resistance High specific gravity Poor solubility Good releasability |
| | | X-22-821 | 120 | 1.09 | 1.390 | |
| | | X-22-822 | 100 | 1.15 | 1.384 | |
| | | FL-100-100cs | 100 | 1.23 | 1.379 | |
| | | FL-100-450cs | 450 | 1.26 | 1.381 | |
| | | FL-100-1,000cs | 1,000 | 1.28 | 1.381 | |
| | | FL-100-10,000cs | 10,000 | 1.30 | 1.382 | |

Long-chain alkyl-modified

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Features |
|---------------------------|--|--------------|---------------------------------------|-------------------------|-------------------------|---|
| Long-chain alkyl | —C _a H _{2a+1} | KF-412 | 500 | 0.90 | 1.450 | Paintable Good releasability Compatibility Good lubricity Water repellency |
| | | KF-413 | 190 | 0.89 | 1.443 | |
| | | KF-414 | 100 | 0.93 | 1.428 | |
| | | KF-415 | 630 | 0.96 | 1.412 | |
| | | KF-4003 | 40 | 0.93 | 1.420 | |
| | | KF-4701 | 750 | 0.89 | 1.455 | |
| | | KF-4917 | 20 | 0.92 | 1.420 | |
| | | KF-7235B | 450 | 0.93 | 1.438 | |
| X-22-7322 | 100 | 0.90 | 1.445 | | | |
| Long-chain alkyl, aralkyl | —C _a H _{2a+1} —CH ₂ —CH—  CH ₃ | X-22-1877 | 850 | 0.92 | 1.466 | |

Higher fatty acid ester-modified

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Features |
|-------------------------|---------------|--------------|---------------------------------------|-------------------------|-------------------------|---------------|
| Higher fatty acid ester | —OCOR | X-22-715 | 14,000 | 0.88 | 1.448 | Compatibility |

Contains higher fatty acids

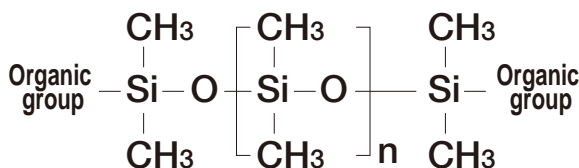
| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Features |
|-------------------------|---------------|--------------|---------------------------------------|-------------------------|-------------------------|---|
| Higher fatty acid amide | —RNHCOR' | KF-3935 | Paste consistency (melt point: 49°C) | — | — | High melt point Water repellency |

Phenyl-modified

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | Features |
|-------------------|---|----------------------|---------------------------------------|-------------------------|-------------------------|---|
| Phenyl | $\begin{array}{c} \text{CH}_3 \\ \\ \text{CH}_3-\text{Si}-\text{O} \\ \\ \text{CH}_3 \end{array} \left[\begin{array}{c} \text{CH}_3 \\ \\ \text{Si}-\text{O} \\ \\ \text{CH}_3 \end{array} \right]_m \left[\begin{array}{c} \text{C}_6\text{H}_5 \\ \\ \text{Si}-\text{O} \\ \\ \text{C}_6\text{H}_5 \end{array} \right]_n \begin{array}{c} \text{CH}_3 \\ \\ \text{Si}-\text{O} \\ \\ \text{CH}_3 \end{array}$ | KF-50-100cs | 100 | 0.995 | 1.427 | Heat resistance High refractive index Compatibility Low-temperature resistance |
| | | KF-50-300cs | 300 | 0.998 | 1.427 | |
| | | KF-50-1,000cs | 1,000 | 1.00 | 1.427 | |
| | | KF-50-3,000cs | 3,000 | 1.00 | 1.427 | |
| | | KF-53 | 170 | 1.06 | 1.485 | |
| | | KF-54 | 400 | 1.07 | 1.505 | |
| | | X-21-3265 | 400 | 1.07 | 1.505 | |
| | | KF-54SS | 500 | 1.07 | 1.504 | |

Non-Reactive Silicone Fluids

Dual-end type



Polyether-modified

| Modification type | Organic group | Product name | Viscosity (25°C) [mm ² /s] | Specific gravity (25°C) | Refractive index (25°C) | H L B | Features |
|-------------------|--|----------------|---------------------------------------|-------------------------|-------------------------|-------|----------|
| Polyether | $-\text{R}(\text{C}_2\text{H}_4\text{O})_a(\text{C}_3\text{H}_6\text{O})_b\text{R}'$ | KF-6004 | melt point 45°C | — | — | 9 | |

⚠ CAUTION

| Storage & Handling Precautions |

● Quality, Storage and Handling

Many modified silicone fluids contain organic functional groups or hydrolyzable groups, and their reactivity varies. Before using these products, carefully consider their respective characteristics.

Heat, light, acids and bases may cause deterioration of modified silicone fluids. Take care to prevent contamination, and seal tightly and store in a cool, dark place.

Our modified silicone fluids are not produced specifically for medical use. Accordingly, they should not be used as is for orthopedic or cosmetic surgery or other medical applications.

If amino-modified silicone fluid is being used as an aerosol and the particles are inhaled, there is a possibility of acute inhalation toxicity. Average consumers should not use amino-modified silicone fluid in spray applications.

Some silicone products described herein are classified as hazardous materials under the laws of certain countries. In such cases, the laws must be followed regarding storage, labeling, and handling.

● Safety & Hygiene

Some modified silicone fluids may cause skin irritation. If contact occurs, they are difficult to remove from the skin, so always wear rubber gloves (etc.) and avoid contact with the skin and mucous membranes. In case of contact, wipe with a rag or waste (etc.), then wash with soap and water or flush thoroughly with water.

In case of accidental eye contact, immediately flush with water for at least 15 minutes and then seek medical attention.

Be sure there is adequate ventilation when handling these products. If you feel ill after breathing the vapors, move immediately to an area with fresh air.

Please read the Material Safety Data Sheet (MSDS) before use. MSDS can be obtained from our Sales Department.

● Other

Some of the products featured in this catalog are preproduction prototypes. Please contact Shin-Etsu to confirm the availability of all products.

For cosmetics, "A Grade" products are available, but in some cases a separate application is required if modified silicone fluids are to be used as a cosmetic ingredient. Please contact Shin-Etsu regarding required documents.

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The Development and Manufacture of Shin-Etsu Silicones are based on the following registered international quality and environmental management standards.

| | | |
|----------------------|------------|--------------|
| Gunma Complex | ISO 9001 | ISO 14001 |
| | (JCQA-0004 | JCQA-E-0002) |
| Naoetsu Plant | ISO 9001 | ISO 14001 |
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