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SiSiB SILICONES

A part of SINOPCC group.



Silicone Adjuvants

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SiSiB
SILICONES
西斯博有机硅

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SiSiB SILICONES, a part of SINOPCC group established in 1989, is one of the leading manufacturers in silicone industry, focusing on the development and manufacture of silanes and silicones.

Strategically positioned within the silicone supply chain, SiSiB SILICONES provide a comprehensive range of performance-enhancing products and solutions to meet the need of customers. These include silanes and siliconates, silicone fluids, silicone emulsions, silicone rubber, silicone gum and fumed silica.

Today our products are used successfully throughout the world in the adhesives and sealants, agriculture, artificial marbles, building protection, coatings & paints, fillers & pigments, foundries, fiber glass, leather & textile, lubricants, personal care, pharmaceuticals, plastics & thermoplastics, polyurethane foam, rubber & tyre, wires & cables.

■ Why select SiSiB SILICONES?

- Strong silane and silicone manufacturing capabilities built over 30+ years history.
- Flexible manufacturing facility able to handle kilograms to thousands of tons per years.
- Rapid and professional process development and scale-up capabilities.
- Offer tailored options while adhering to high quality and safety standards.





Silicone Adjuvants

SiSiB Silicone Adjuvants

have been successfully used for years to provide superspreading and excellent spray coverage on many crops.

Key Features

- Reduced spray volumes.
- Enhanced agrochemicals uptake & efficacy.
- Improved uptake of active ingredients.
- Better rainfastness.

Agricultural Silicone Surfactant (Adjuvant)

Product	CAS No.	Description	Application	Tank-Mix	In-Can pH range	Spreading	Uptake	Rainfastening	Countertype
SiSiB® ASS8211	67674-67-3	It is a super-spreading surfactant based on polyether modified trisiloxane. It lowers the surface tension of spray solutions, beyond that which is achievable with conventional adjuvants.	High Performance super spreader, EC, SL, WDG	Yes	6~8	*****	***	*****	Silwet 408
SiSiB® ASS8277	27306-78-1	It is a 100% nonionic organosilicone product which has been proven to have effective and powerful wetting capabilities when used in aqueous sprays.	High Performance Super spreader	Yes	6~8	*****	***	*****	Silwet L-77
SiSiB® ASS8806	134180-76-0	It is a superspreading surfactant based on a trisiloxane alkoxyolate. It lowers the surface tension of spray solutions, beyond that which is achievable with conventional adjuvants.	Low Foaming Super spreader	Yes	6~8	****	**	****	Silwet 806
SiSiB® ASS8309	125997-17-3	It is a nonionic surfactant that has been specifically designed to enhance the efficacy of pesticides. It is particularly effective when used with water-soluble and post-emergent herbicides.	Super spreader for Organic Farming	Yes	6~8	****	**	**	Silwet ECO
SiSiB® ASS8560	17955-88-3	It is an alkyl modified trisiloxane, can improve the coverage of oils. It is designed for delivery of oil-based pesticide formulations.	Oil based pesticide formulation	Yes		****	■	■	Silwet 560



SiSiB® ASS8211

SiSiB® ASS8211 is polyalkyleneoxide modified heptamethyltrisiloxane, and is an organic silicone surfactant with super ability of spreading. It makes the water surface tension lower down to the 20.5mN/m at the concentration of 0.1% (wt.). After the mixture with the pesticide solution at the certain proportion, it can lower the contact angel between the spray and foliage, which can enlarge the coverage of the spray. Furthermore, ASS8211 Agricultural Silicone Spreading and Penetrating Agent can make the pesticide absorbed through the stomatal of leaves, which is extremely effective for improving efficacy, reducing amount of pesticide, saving cost, reducing environmental pollution caused by pesticides

Benefits

- Superior spreader for soluble liquid and emulsifiable concentrate formulations
- Spray volume reduction
- Rapid uptake of agrochemicals (rainfastness)
- Improved spray coverage
- Nonionic

Typical Physical Properties

CAS No.	67674-67-3
Pour Point	-8°C
Flash Point	118°C
Color and Appearance	Colorless to straw liquid
Surface Tension (0.1%)	<21.0 mN/m
Density 25/25°C	1.02 g/cm ³
Viscosity(25°C)	30-50 cSt
Cloud Point (0.1 wt%)	<10°C

ASS8211 Spray Adjuvant



Application

SiSiB® ASS8211 has super spreading and penetrating property, high-efficient systemic and conduction property, and tolerance property of rainfall.

SiSiB® ASS8211 can add to the biological pesticide spray mixture liquid such as pesticide, bactericide, herbicide, foliar fertilizer, plant growth regulator, etc., especially applied for systemic pharmacy.

How to use

- Used of spray mixed in drum

In general, add SiSiB® ASS8211 (4000times) 5g in every 20kg spray. If it needs to promote the adsorption of systemic pesticide, increase the function of pesticide or reduce the amount of spray further, it should add the usage amount properly. In general, the amount is as follows:

Plant promote regulator:	0.025%-0.05%
Herbicide:	0.025%-0.15%
Pesticide:	0.025%-0.10%
Bactericide:	0.015%-0.05%
Fertilizer and trace element:	0.015%-0.10%

When using, first dissolve the pesticide, add SiSiB® ASS8211 after the uniform mixture of 80% water, then add water to 100% and mix them uniformly. It is advised that when using Agricultural Silicone Spreading and Penetrating Agent, the water amount reduced to 1/2 of the normal (suggested) or 2/3, average pesticide usage reduced to 70-80% of the normal. Using the small aperture nozzle will quicken the spray speed.

- Used of original pesticide

When the product added to the original pesticide, we suggest the amount is 0.5%-8% of the original pesticide. Adjust the PH value of the pesticide prescription to 6-8. The user should adjust the amount of Agricultural Silicone Spreading and Penetrating Agent according to different kinds of pesticide and prescription to reach the most effective and most economical result. Do compatibility tests and stepwise tests before usage

Packing & Storage

SiSiB® ASS8211 is supplied in 200Kg drum or 1000Kg IBC tote.

In the unopened original container SiSiB® ASS8211 has a shelf life of two years in a dry and cool place.



SiSiB® ASS8277

Agricultural Silicone Synergistic Agent SiSiB® ASS8277 is polyalkyleneoxide modified heptamethyltrisiloxane, and is an organic silicone surfactant with super ability of spreading. It makes the water surface tension lower down to the 20.5 mN/m at the concentration of 0.1 % (wt.). After the mixture with the pesticide solution at the certain proportion, it can lower the contact angle between the spray and foliage, which can enlarge the coverage of the spray. Furthermore, SiSiB® ASS8277 Agricultural Silicone Spreading and Penetrating Agent can make the pesticide absorbed through the stomatal of leaves, which is extremely effective for improving efficacy, reducing amount of pesticide, saving cost, reducing environmental pollution caused by pesticides.

Benefits

- Superior spreader
- Spray volume reduction
- Rapid uptake of agrochemicals (rainfastness)
- Improved spray coverage
- Nonionic

Typical Physical Properties

CAS No.	27306-78-1
Boiling Point	>150°C [760mmHg]
Flash Point	116°C
Color and Appearance	Colorless to light amber liquid
Surface Tension (0.1%)	<20.5 mN/m
Density _{25/25°C}	1.03
Viscosity(25°C)	25-45 cSt
Cloud Point (0.1 wt%)	<10°C

ASS8277 Spray Adjuvant



Application

Agricultural Silicone Synergistic Agent SiSiB® ASS8277 can add to the biological pesticide spray mixture liquid such as pesticide, bactericide, herbicide, foliar fertilizer, plant growth regulator, etc, especially applied for systemic pharmacy.

How to use

□ Used of spray mixed in drum

In general, add Agricultural Silicone Synergistic Agent SiSiB® ASS8277 (4000times) 5g in every 20kg spray. If it needs to promote the adsorption of systemic pesticide, increase the function of pesticide or reduce the amount of spray further, it should add the usage amount properly. In general, the amount is as follows:

Plant promote regulator:	0.025%-0.05%
Herbicide:	0.025%-0.15%
Pesticide:	0.025%-0.1%
Bactericide:	0.015%-0.05%
Fertilizer and trace element:	0.015%-0.1%

When using, first dissolve the pesticide, add SiSiB® ASS8277 after the uniform mixture of 80% water, then add water to 100% and mix them uniformly. It is advised that when using Agricultural Silicone Spreading and Penetrating Agent, the water amount reduced to 1/2 of the normal (suggested) or 2/3, average pesticide usage reduced to 70-80% of the normal. Using the small aperture nozzle will quicken the spray speed.

□ Used of original pesticide

When the product added to the original pesticide, we suggest the amount is 0.5%-8% of the original pesticide. Adjust the PH value of the pesticide prescription to 6-8. The user should adjust the amount of Agricultural Silicone Synergistic Agent SiSiB® ASS8277 according to different kinds of pesticide and prescription to reach the most effective and most economical result. Do compatibility tests and stepwise tests before usage.

Packing & Storage

SiSiB® ASS8277 is supplied in 200Kg drum or 1000Kg IBC tote.

In the unopened original container SiSiB® ASS8277 has a shelf life of one year in a dry and cool place.



SiSiB® ASS8309

ASS8309 Spray Adjuvant



SiSiB® ASS8309 is a low viscosity nonionic silicone polyether surfactant (Polyalkyleneoxide modified heptamethyltrisiloxane). It is developed to improve the spreading, wetting and penetration of agricultural chemicals, especially water-soluble broadleaf herbicides and insecticides, fungicides and plant growth regulators. SiSiB® ASS8309 can make the pesticide absorbed through the stomata of leaves, which is extremely effective for improving efficacy, reducing amount of pesticide, saving cost, reducing environmental pollution caused by pesticides.

Benefits

- Superior spreader
- Spray volume reduction
- Improved spray coverage
- Effective with most low temperature applications
- Low foaming
- Nonionic

Typical Physical Properties

CAS No.	125997-17-3
Color and Appearance	Clear, amber-colored fluid
Cloud Point (0.1 wt%)	3°C
Flash Point	>100°C
Freezing Point	< 0°C
Surface Tension (0.1%)	< 20.5 mN/m
HLB	12
Viscosity(25°C)	15-40 cSt
Active Content	100%
Solids	100%

Application

SiSiB® ASS8309 could be used as a tank-mix adjuvant for foliar-applied chemicals, or as a formulation ingredient in pesticide products.

How to use

□ As a Tank-Mix Adjuvant

SiSiB® ASS8309 may be added to tank-mixes to enhance the biological performance of the spray solution. With herbicides, SiSiB® ASS8309 should be added 50g into 200kg spray solution(4000-times diluent), generally.

Plant promote regulator:	0.025%-0.05%
Herbicide:	0.025%-0.15%
Pesticide:	0.025%-0.1%
Bactericide:	0.015%-0.05%
Fertilizer and trace element:	0.015%-0.1%

When using, dissolve the pesticide first, add SiSiB® ASS8309 after the uniform mixture of 80% water, then add water to 100% and mix them uniformly. It is advised that when using Agricultural Silicone Spreading and Penetrating Agent, the water amount reduced to 1/2 of the normal (suggested) or 2/3, average pesticide usage reduced to 70-80% of the normal. Using the small aperture nozzle will quicken the spray speed.

□ In Agrochemical Formulations

SiSiB® ASS8309 may be used as an ingredient of 0.5-8% in formulations, provided all the ingredients are compatible. It is stable in neutral aqueous formulations (pH=7), but will degrade rapidly in acidic or alkaline formulations. New product formulations should be thoroughly tested for performance and shelf stability before taking to market.

Packing & Storage

SiSiB® ASS8309 is supplied in 200Kg drum or 1000Kg IBC tote.

In the unopened original container SiSiB® ASS8309 has a shelf life of three years in a dry and cool place.



SiSiB® ASS8806

Agricultural Silicone Synergistic Agent SiSiB® ASS8806 is polyalkyleneoxide modified heptamethyltrisiloxane, and is an organic silicone surfactant with super ability of spreading. It makes the water surface tension lower down to the 22.0 mN/m at the concentration of 0.1% (wt). After the mixture with the pesticide solution at the certain proportion, it can lower the contact angle between the spray and foliage, which can enlarge the coverage of the spray.

Furthermore, SiSiB® ASS8806 Agricultural Silicone Spreading and Penetrating Agent can make the pesticide absorbed through the stomatal of leaves, which is extremely effective for improving efficacy, reducing amount of pesticide, saving cost, reducing environmental pollution caused by pesticides.

Benefits

- Superior spreader
- Spray volume reduction
- Improved spray coverage
- Improved rainfastness
- Effective with most low temperature applications
- Low foaming
- Nonionic

Typical Physical Properties

CAS No.	134180-76-0
Color and Appearance	Colorless to light amber liquid
Flash Point	112°C
Surface Tension (0.1%)	21.0-22.0 mN/m
Density 25/25°C	1.01-1.03
Cloud Point:	<10°C
Viscosity(25°C)	25-45 cPs

ASS8806 Spray Adjuvant



Application

Agricultural Silicone Synergistic Agent SiSiB® ASS8806 can add to the biological pesticide spray mixture liquid such as pesticide, bactericide, herbicide, foliar fertilizer, plant growth regulator, etc, especially applied for systemic pharmacy.

How to use

□ As a Tank Mix Adjuvant

SiSiB® ASS8806 is used to improve spray coverage, improve uptake or to reduce spray volume. It is the most effective as a tank-side adjuvant when spray mixtures are (i) within a PH range of 6-8, and (ii) prepare the spray mixture for immediately use or within 24h preparation.

SiSiB® ASS8806 achieves full performance at very low use-levels, often 0.1 to 0.5% will be sufficient. Once the full performance of SiSiB® ASS8806 has been reached, a further increase in the silicone surfactant concentration will show no effect. We recommend testing first at a concentration of 1% and afterwards lowering the SiSiB® ASS8806 concentration to the point at that still full performance is achieved. In general, the amount is as follows:

Plant promote regulator:	0.025%-0.05%
Herbicide:	0.025%-0.15%
Pesticide:	0.025%-0.1%
Bactericide:	0.015%-0.05%
Fertilizer and trace element:	0.015%-0.1%

When using, dissolve the pesticide first, add SiSiB® ASS8806 after the uniform mixture of 80% water, then add water to 100% and mix them uniformly. It is advised that when using Agricultural Silicone Spreading and Penetrating Agent, the water amount reduced to 1/2 of the normal (suggested) or 2/3, average pesticide usage reduced to 70-80% of the normal. Using the small aperture nozzle will quicken the spray speed.

□ In Agrochemical Formulations

When the product added to the original pesticide, we suggest the amount is 0.5%-8% of the original pesticide. Adjust the PH value of the pesticide prescription to 6-8. If the liquid mixtures is PH=5-6 or PH=8-9, the surface activity lows down obviously after being laid aside for 24h. Although silicone surfactants are subject to hydrolysis under acidic or basic conditions, optimum performance is achieved by buffering the formulation to PH 6.5-7.5.

The user should adjust the amount of Agricultural Silicone Synergistic Agent SiSiB® ASS8806 according to different kinds of pesticide and prescription to reach the most effective and most economical result. Do compatibility tests and stepwise tests before usage.

Packing & Storage

SiSiB® ASS8806 is supplied in 200Kg drum or 1000Kg IBC tote.

In the unopened original container SiSiB® ASS8806 has a shelf life of 2 years in a dry and cool place.



SiSiB® ASS8560

ASS8560 Oil Soluble Spreader



Application

Recommended use levels are between 3 - 10%, based on the oil content of the "in-can" formulation. Such use levels deliver between 0.03% - 0.1% of SiSiB® ASS8560 in the spray tank application. For example, if a mineral oil contains 5% SiSiB® ASS8560, and is applied at 1%, this will deliver 0.05% SiSiB® ASS8560 to the spray tank.

Addition of 5% SiSiB® ASS8560 to either mineral oil or methylsoyate may significantly increase the spread area relative to these oils alone. This increase in spreading properties can be quite significant since it enables better coverage and effective delivery of many oil based pesticide formulations using lower spray application volumes.

Packing & Storage

SiSiB® ASS8560 is supplied in 200Kg drum or 1000Kg IBC tote.

In the unopened original container SiSiB® ASS8560 has a shelf life of 2 years in a dry and cool place.

SiSiB® ASS8560 is an alkyl modified trisiloxane (1,1,1,3,5,5,5-heptamethyl-3-octyltrisiloxane) that may provide spreading properties to agricultural oils. It can improve the coverage of oils on foliar surfaces and increases the efficient of oil based pesticide formulations.

SiSiB® ASS8560 is insoluble in water, glycerin, propylene glycol, butylene glycol, but the alkyl modification makes this product compatible with most organic oils, such as vegetable oils, mineral oil, Ethanol, isopropanol, soybean oil, methylsoyate, fatty alcohols/acids, esters, glycerides, hydrocarbons.

Benefit

- Superior spreader for many oil based Ag formulations
- Oil compatible
- Lowers the surface tension of oils for better surface coverage/ penetration
- Low pour point

Typical Physical Properties

CAS No.	17955-88-3
Color and Appearance	Colorless to light yellow clear liquid
Pour Point	-70°C
Flash Point	110°C
Viscosity(25°C)	3 cSt
Refractive index	1.41-1.42
Density 25/25°C	0.84

