

REDUSYSTEMS[®]: REDUSOL[®], REDUHEAT[®], REDUFUSE[®], REDUFUSE IR[®], REDUFLEX[®] BLUE/GREEN and REDUCLEAN[®] / REDUCLEAN[®] DIFFUSE COATINGS REMOVER

Professional, removable, liquid shade paint systems for application to horticultural greenhouses.

Products in the range:

REDUSOL: a white shading product, for a durable even coating with increased light transmission when wet.

REDUHEAT: contains a special pigment which transmits growth light whilst increasing reflection of heat radiation.

REDUFUSE: converts direct sunlight into diffuse sunlight whilst retaining a high level of light penetration.

REDUFUSE IR: reduces heat and converts direct sunlight into diffuse sunlight.

REDUFLEX BLUE or GREEN : Photo selective coatings which also reflect higher levels of infra-red radiation.

REDUSYSTEMS coatings can be removed with the special cleaning products **REDUCLEAN** OR **REDUCLEAN DIFFUSE COATINGS REMOVER**.

Always read the label and product information before use.

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of these products at work.

VERSION CONTROL

Version	Publication Date	Main change from previous version
10/15		
09/19	September 2019	Addition of REDUCLEAN DIFFUSE COATINGS REMOVER, new pack sizes for REDUCLEAN. New format.

REDUSOL®

REDUSOL is a white shade paint for application to horticultural greenhouses. Suitable for glass, acrylic, polycarbonate and plastic film. Easy to apply. Up to 80% shading. Highly resistant to frost and rain. Highly wear resistant. Higher light transmission during rain (when wet). Flexible in use, easily combined with other REDUSYSTEMS products. Easily removed with REDUCLEAN.

INSTRUCTIONS

LIQUID GREENHOUSE SHADING AGAINST TOO MUCH HEAT AND LIGHT.

REDUSOL is suitable for all commonly used greenhouse coverings and is very wear resistant in higher concentrations. One application per season is usually sufficient. REDUSOL can be easily and safely removed with REDUCLEAN.

DIRECTIONS FOR USE (SEE "REDUSOL APPLICATION INSTRUCTIONS"):

1. Apply REDUSOL only:
 - On a dry and clean surface.
 - Under fast drying circumstances. ($T > 5^{\circ}\text{C}$ + $\text{RH} < 80\%$).
 - When rain is not expected during application or drying process.
2. Determine the desired shading. PAR = grow-light, NIR = Infrared.
3. Spray liquid = REDUSOL + water.
4. Fill the tank with the required litres of clean water.
5. Add the correct amount of REDUSOL while stirring.
6. Stir spray liquid during application.

REDUSOL application instructions for 10,000m² (1 ha)

Shading*		Amount of buckets** (litres)	Total spray liquid	Reference
PAR	NIR			
78%	78%	36 (=511 litres)	Manual application 1,700 – 2,000 litres Machine or helicopter 1,000 – 1,500 litres	1:2
67%	67%	21 (=298 litres)		1:4
51%	51%	15 (=213 litres)		1:6
37%	37%	11 (=156 litres)		1:8

* Shading percentage includes structure and greenhouse cover.

** The use of a sprayboom (machine) lowers the required amount of REDUSOL by 10%

WEAR RESISTANCE

- A higher concentration of REDUSOL is more wear resistant than a lower concentration.
- Above average amount or intensity of precipitation will increase wear of the layer.

REMOVAL

- Use a minimum of 250 litres REDUCLEAN per ha.
- Never use any other shading products other than REDUSYSTEM products in combination with REDUSOL.
- Use of roof-sprinklers for cooling can cause removal problems.

HEALTH RISKS

- In case of contact with eyes or skin rinse thoroughly with water.
- In case of ingestion seek medical attention.

ENVIRONMENT

- REDUSOL is harmless to the environment.
- A high concentration of REDUSOL in water can lead to an undesirable, temporary, white discoloration.
- Check if the waterways and surroundings are suitable for the inflow of REDUSOL. Avoid if possible.
- Check the usability of the irrigation water in the basin after inflow of REDUSOL.

STORAGE

- Keep from freezing.
- Unopened containers have a shelf life of 2 years.

EUH208 - Contains 1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one. May produce an allergic reaction

Pack size (REDUSOL): 20kg (14.2 litres).

Safety data sheet available on request.

REDUHEAT®

REDUHEAT contains a special pigment that transmits grow-light (PAR) while reflecting most of the heat radiation. Suitable for crops that thrive on large amounts of light but need protection against heat. Suitable for glass, acrylate, polycarbonate and plastic film. Highly wear resistant. Easy to remove with REDUCLEAN.

INSTRUCTIONS

LIQUID GREENHOUSE SHADING FOR MORE GROW-LIGHT AND LESS HEAT.

REDUHEAT reflects more infrared light compared to grow-light. REDUHEAT is suitable for all commonly used greenhouse coverings and is very wear resistant in higher concentrations. One application per season is usually sufficient. REDUHEAT can be easily and safely removed with REDUCLEAN.

DIRECTIONS FOR USE (SEE "REDUHEAT APPLICATION INSTRUCTIONS")

1. Apply REDUHEAT only:
 - On a dry and clean surface.
 - Under fast drying circumstances. ($T > 10^{\circ}\text{C}$ + $\text{RH} < 80\%$).
 - When rain is not expected during application or drying process.
2. Determine the desired shading. PAR = grow-light, NIR = Infrared.
3. Spray liquid = REDUHEAT + water.
4. Fill the tank with the required litres of clean water.
5. Add the correct amount of REDUHEAT while stirring.
6. Stir spray liquid during application.

REDUHEAT application instructions for 10,000m² (1 ha)

Shading*		Amount of buckets** (litres)	Total spray liquid	Reference
PAR	NIR			
32%	46%	33 (=446 litres)	Manual application 1,700 – 2,000 litres. Machine or helicopter 1,000 – 1,500 litres	1:3
28%	38%	27 (=365 litres)		1:4
22%	28%	22 (=297 litres)		1:5
* Shading percentage includes structure and greenhouse cover.				
** The use of a sprayboom (machine) lowers the required amount of REDUHEAT by 10%				

WEAR RESISTANCE

- A higher concentration of REDUHEAT is more wear resistant than a lower concentration.
- Above average amount or intensity of precipitation will increase wear of the layer.

REMOVAL

- Use a minimum of 250 litres REDUCLEAN per ha.
- Never use any other shading products other than REDUSYSTEM products in combination with REDUHEAT.
- Use of roof-sprinklers for cooling can cause removal problems.

HEALTH RISKS

- In case of contact with eyes or skin rinse thoroughly with water.
- In case of ingestion seek medical attention.

ENVIRONMENT

- REDUHEAT is harmless to the environment.
- Check if the waterways and surroundings are suitable for the inflow of REDUHEAT. Avoid if possible.
- Check the usability of the irrigation water in the basin after inflow of REDUHEAT.

STORAGE

- Keep from freezing.
- Unopened containers have a shelf life of one year.

EUH208 - Contains 1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one. May produce an allergic reaction

Pack size (REDUHEAT): 15kg (13.5 litres).
Safety data sheet available on request.

REDUFUSE®

REDUFUSE is a removable coating for glass that converts direct sunlight into diffused light, which penetrates deeper into the crop and can improve production and quality. More photosynthesis also in the lower leaves. For use on glass.

INSTRUCTIONS

THE SMARTEST SOLUTION FOR DIFFUSED LIGHT.

REDUFUSE converts direct sunlight into diffuse light while maintaining high light transmission. REDUFUSE is only suitable for glass greenhouse coverings and is very wear-resistant. One application per season is usually sufficient.

Best results are achieved when applied by machine (sprayboom). REDUFUSE is removable with REDUCLEAN DIFFUSE COATINGS REMOVER.

DIRECTIONS FOR USE (SEE "REDUFUSE APPLICATION INSTRUCTIONS")

1. Apply REDUFUSE only:
 - On a dry and clean surface of glass.
 - Under fast drying circumstances. ($T > 10^{\circ}\text{C}$ + $\text{RH} < 80\%$).
 - When rain is not expected during application or drying process.
2. Determine the desired shading and haze percentage.
3. Spray liquid = REDUFUSE + water.
4. Fill the tank with the required litres of clean water.
5. Add the correct amount of REDUFUSE while stirring.
6. Stir spray liquid during application.

REDUFUSE application instructions for 10,000m² (1 ha)

Shading*		Light diffusion (haze)	Amount of buckets** (litres)	Total spray liquid
PAR	NIR			
10%	10%	80%	20 (297 litres)	Manual application 1,700 - 2,000 litres. Machine or helicopter 1,000 - 1,500 litres.
6%	6%	70%	14 (208 litres)	
4%	4%	50%	12 (178 litres)	

* Shading: measured hemispherically, does not include glass and structure.

** Manual application will increase the required amount of REDUFUSE by 10%

WEAR-RESISTANCE

- A higher concentration of REDUFUSE is more wear-resistant than a lower concentration.
- Above average amount or intensity of precipitation will increase wear of the layer.

REMOVAL

REDUFUSE is removable with REDUCLEAN DIFFUSE COATINGS REMOVER provided that the instructions below are strictly followed:

- Use a minimum of 250 litres REDUCLEAN DIFFUSE COATINGS REMOVER per ha.
- Apply REDUCLEAN DIFFUSE COATINGS REMOVER preferably by machine on the greenhouse surface.
- Do not apply REDUCLEAN DIFFUSE COATINGS REMOVER on a wet surface or during rain.
- Considerable amount of rain needs to fall within 2 days after REDUCLEAN DIFFUSE COATINGS REMOVER application.
- Never use any other shading products other than REDUSYSTEM products in combination with REDUFUSE.
- Use of roof-sprinklers for cooling can cause removal problems.

In case of a marginal removal result, a new application of REDUCLEAN DIFFUSE COATINGS REMOVER in combination with brushing should be used. A brushing machine must be available when using REDUFUSE.

HEALTH RISKS

- In case of contact with eyes or skin rinse thoroughly with water.
- In case of ingestion seek medical attention.

ENVIRONMENT

- Check if the waterways and surroundings are suitable for the inflow of REDUFUSE. Avoid if possible.
- Check the usability of the irrigation water in the basin after inflow of REDUFUSE.

STORAGE

- Keep from freezing.
- Unopened containers have a shelf life of 2 years.

EUH208 - Contains 1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one. May produce an allergic reaction

Pack size (REDUFUSE): 15kg (14.85 litres).
Safety data sheet available on request.

REDUFUSE IR®

REDUFUSE IR is a coating that reduces heat radiation whilst diffusing light when it enters the greenhouse.

INSTRUCTIONS

DIFFUSED LIGHT AND EFFICIENT HEAT PROTECTION.

REDUFUSE IR converts direct sunlight into diffused light and at the same time reflects higher levels of infrared. REDUFUSE IR is suitable for all common greenhouse coverings and is highly wear resistant in higher concentrations. REDUFUSE IR is easily and safely removable with REDUCLEAN DIFFUSE COATINGS REMOVER.

DIRECTIONS FOR USE (SEE "REDUFUSE IR APPLICATION INSTRUCTIONS")

1. Apply REDUFUSE IR only:
 - On a dry and clean surface.
 - Under fast drying circumstances ($T > 10^{\circ}\text{C}$ + $\text{RH} < 80\%$).
 - When rain is not expected during application or drying process.
2. Determine the desired shading and haze percentage.
3. Spray liquid = REDUFUSE IR plus water.
4. Fill tank with the required litres of clean water.
5. Add the correct amount of REDUFUSE IR while stirring.
6. Stir spray liquid during application.

REDUFUSE IR application instructions for 10,000m² (1 ha)

Shading*		Light diffusion (haze)	Amount of buckets** (litres)	Total spray liquid
PAR	NIR			
15%	20%	80%	22 (297 litres)	Manual application 1,700 - 2,000 litres.
11%	16%	70%	18 (243 litres)	Machine application 1,000 - 1,500 litres.
* Shading percentage measured hemispherically, does not include greenhouse and structure and cover.				
** Manual application will increase the required amount of REDUFUSE IR by 10%				

WEAR RESISTANCE

- A higher concentration of REDUFUSE IR is more wear resistant than a lower concentration.
- Considerably higher wear will occur when less than 18 buckets per ha of REDUFUSE IR are used.
- Above average amount of intensity of precipitation will increase wear of the layer.

REMOVAL

- Use a minimum of 250 litres of REDUCLEAN DIFFUSE COATINGS REMOVER per ha.
- Never use any other shading products other than REDUSYSTEM products in combination with REDUFUSE IR.
- Use of roof-sprinklers for cooling can cause removal problems.

HEALTH RISKS

- In case of contact with eyes or skin rinse thoroughly with water.
- In case of ingestion seek medical attention.

ENVIRONMENT

- REDUFUSE IR is harmless to the environment.
- Check if the waterways and surroundings are suitable for the inflow of REDUFUSE IR - Avoid if possible.
- Check the usability of the irrigation water in the basin after infow of REDUFUSE IR.

STORAGE

- Keep from freezing.
- Unopened containers have a shelf life of one year.

EUH208 - Contains 1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one. May produce an allergic reaction

Pack size (REDUFUSE IR): 15kg (13.4 litres).
Safety data sheet available on request.

REDUFLEX BLUE®

REDUFLEX GREEN®

Photo-selective coatings which reflects high levels of infrared heat radiation.

REDUFLEX BLUE: Reflects a larger amount of high energy blue light. Successfully tested on roses and other crops.

REDUFLEX GREEN: Reflects a larger amount of green and yellow light.

INSTRUCTIONS

For recommended rates of use consult the manufacturer or distributor.

HOW TO USE IT

REDUFLEX can be applied manually or with a spraying machine. Add the selected number of buckets to clean water while stirring. To obtain the desired results, the total quantity of spraying liquid should be sprayed uniformly, and without loss, over the surface.

Only apply REDUFLEX:

- To a dry clean greenhouse cover
- At an outside temperature above 10°C
- During dry weather conditions, spray well before sundown.
- When no precipitation is forecast within the next few hours.

REMOVAL

After the season, REDUFLEX can be removed easily and responsibly with REDUCLEAN. For removal use 250 litres REDUCLEAN per hectare. After applying REDUCLEAN rain will be sufficient to remove the coating or REDUFLEX completely. Apply REDUCLEAN only when rain is forecast within the next few days. While removing REDUFLEX close the water basin. This prevents a temporary increase in the pH value of the water.

Warning

To ensure a proper cleaning result, REDUFLEX should never be used with other products than REDUSYSTEM coatings.

If REDUFLEX and or REDUCLEAN enter the basin, it is advisable to check the water's pH value for suitability before use. A possible change in the pH is only temporary.

RISKS TO HEALTH

In case of contact with skin or eyes, rinse with water. If ingested, consult a physician.

ENVIRONMENT

REDUFLEX contains no environmentally harmful ingredients. Visual pollution should be prevented by preventing discharging into low-capacity drainage systems and clear stagnant water.

STORAGE

REDUFLEX should be stored in a frost-free location.

Pack size (REDUFLEX): 15kg (13.4 litres).

Safety data sheet available on request.

REDUCLEAN® / REDUCLEAN® DIFFUSE COATINGS REMOVER

REDUCLEAN and REDUCLEAN DIFFUSE COATINGS REMOVER are special cleaning solutions designed to remove all REDUSYSTEM coatings.

REDUCLEAN

for REDUSOL, REDUHEAT and REDUFLEX.

REDUCLEAN DIFFUSE COATINGS REMOVER

for REDUFUSE and REDUFUSE IR.

Simple to use on all greenhouse coatings, including glass, acrylic, polycarbonate and plastic film. After applying the product rainwater is usually enough for a clean result.

INSTRUCTIONS

USE THE CORRECT PRODUCT

REDUCLEAN for REDUSOL, REDUHEAT and REDUFLEX.

REDUCLEAN DIFFUSE COATINGS REMOVER for REDUFUSE and REDUFUSE IR

(Instructions are the same for both REDUCLEAN and REDUCLEAN DIFFUSE COATINGS REMOVER).

REDUCLEAN FOR REMOVING REDUSYSTEM PRODUCTS FROM GLASS, ACRYLIC, POLYCARBONATE AND PLASTIC FILM.

1. For an optimal result, at least 250 litres of REDUCLEAN should be spread evenly over an area of 1 ha.
2. Mixing ratio: add the required amount of REDUCLEAN with 5 to 7 parts of clean water while stirring.

APPLICATION:

- Only apply on a dry greenhouse and in dry weather conditions.
- Do not use below 5°C.
- Moisten a dry shade coating evenly with diluted REDUCLEAN.

REMOVAL:

- Only apply REDUCLEAN when rain is expected short term. The shade coating will be removed after one or several rain showers. depending on the intensity.
- When cleaning mechanical: allow REDUCLEAN to soak minimal 15 minutes before brushing.

CAUTION:

- Do not use on types of glass provided with a factory coating.
- Greenhouses with specific types of polycarbonate, acrylic or plastic film should be rinsed after about 15 minutes with water as removal by rain can be insufficient. Only remove with rain if tested with positive result.
- Use of rooftop sprinklers for rinsing is not advisable.

WARNING:

Rinse water can alter the pH level of water in the reservoir. It is advisable to close the reservoir inlet during removal or monitor the pH level of the water and make necessary adjustment prior to use.

ENVIRONMENT:

- The organic components of REDUCLEAN are biodegradable and in low concentrations harmless to the environment.
- Check if waterways and surroundings are suitable for the inflow of REDUCLEAN. Avoid if possible.

STORAGE:

- Keep from freezing.
- Unopened containers have a shelf life of 3 years.

REDUCLEAN / REDUCLEAN DIFFUSE COATINGS REMOVER
Contains sodium hydroxide (caustic soda)

DANGER

H290: May be corrosive to metals.

H314: Causes severe burns and eye damage.

P260: Do not breathe vapours, mist, spray.

P264: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work thoroughly after handling.

P280: Wear protective gloves, protective clothing, face protection, eye protection.

P301+P330+P331: IF SWALLOWED rinse mouth. Do NOT induce vomiting.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

If possible remove contact lenses. Continue rinsing.



The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work.

Pack size (REDUCLEAN / REDUCLEAN DIFFUSE COATINGS REMOVER): 20 litre. (One hectare requires 250 litres of REDUCLEAN / REDUCLEAN DIFFUSE COATINGS REMOVER).

Safety data sheet available on request.

Disclaimer:

Mardenkro cannot be held liable for any damages resulting from the use of these products or any damages beyond their control.

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In case of toxic or transport emergency with REDUSOL, REDUHEAT, REDUFUSE, REDUFUSE IR, REDUFLEX BLUE, REDUCLEAN or REDUCLEAN DIFFUSE COATINGS REMOVER Tel + 31 (0) 13 507 7069.

MANUFACTURER

Mardenkro BV, Geerstraat 8, 5111 PS, Baarle-Nassau, P.O. Box 280, 5110 AG Baarle-Nassau, The Netherlands.

Tel + 31 (0) 13 507 5399.

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