

**RAKIRO BIOTECH SYSTEMS PVT LTD**

R-466, TTC Industrial Area, MIDC
Rabale, Navi Mumbai - 400701
Tel No. +91-022-27642236 / 7
Email :- enquiry@rakiro.net

Doc No :	PD-WT-RD300
Rev No :	0
Product :	WATREET
Product Code :	WT-RD300

PRODUCT DATA SHEET

1	<u>INFORMATION</u> WATREET RD-300-Antiscalant / Antifoulant – For Reverse osmosis systems
2	<u>DESCRIPTION</u> WATREET –RD300 is a unique Amtiscalent / Antifoulant control agent for reverse osmosis systems.A latest Polymers have been incorporated in the formulation which prevent deposits and protects system. WATREET RD 300 is highly effective for salts like CaCO ₃ , CaSO ₄ , BaSO ₄ , S.SO ₄ (CaF ₂) It also Effectively disperse soluble and insoluble Iron & Silica. The dispersing action of WATREET-RD 300 helps to keeps the system free from chemical fouling.
3	<u>SALIENT FEATURES</u> Antiscalant /Antifoulant for RO system Ready to use liquid Easy to use & safe to handle
4	<u>ANALYTICAL DATA</u> Appearance : Clear colourless to pale yellow liquid pH : 6.5 to 8.0 Specific Gravity : 1.0 to 1.1 @ 25C
5	<u>HANDLING INSTRUCTIONS</u> Keep the container away from direct heat & sunlight. Keep the container closed when not in use. The product should not be swallowed and prolonged contact with the skin should be avoided. Should it come in contact with the eyes, flush with clean, cold water and get medical attention.
6	<u>RECOMMENDED DOSAGE</u> An dosage of 3 - 5 PPM is recommended but this dosage is to be adjusted in such a way that it should give protection to the system, while being economical. Dosage might vary depending on specific system parameter.

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Doc No :	PD-WT-RD301
Rev No :	0
Product :	WATREET
Product Code :	WT-RD301

PRODUCT DATA SHEET

1	<u>INFORMATION</u> WATREET RD – 301: Antiscalant / Antifoulant – For Reverse osmosis systems
2	<u>DESCRIPTION</u> WATREET –RD301 is a unique Alkaline Antiscalent / Antifoulant control agent for reverse osmosis systems.A latest Polymers have been incorporated in the formulation which prevent deposits and protects system. WATREET RD 301 is highly effective for salts like CaCO ₃ , CaSO ₄ , BaSO ₄ , S.SO ₄ (CaF ₂) It also Effectively disperse soluble and insoluble Iron & Silica. The dispersing action of WATREET-RD 301 helps to keeps the system free from chemical fouling.
3	<u>SALIENT FEATURES</u> Antiscalant /Antifoulant for RO system, Ready to use liquid Easy to use & safe to handle.
4	<u>ANALYTICAL DATA</u> Appearance : Clear colourless to pale yellow liquid pH : 10.0 to 11.0 Specific Gravity : 1.0 to 1.1 @25C
5	<u>HANDLING INSTRUCTIONS</u> Keep the container away from direct heat & sunlight. Keep the container closed when not in use. The product should not be swallowed and prolonged contact with the skin should be avoided. Should it come in contact with the eyes, flush with clean, cold water and get medical attention.
6	<u>RECOMMENDED DOSAGE</u> An dosage of 3 - 5 PPM is recommended but this dosage is to be adjusted in such a way that it should give protection to the system, while being economical. Dosage might vary depending on specific system parameter.

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Doc No :	PD-WT-D304
Rev No :	0
Product :	WATREET
Product Code :	WT-D304

PRODUCT DATA SHEET

1	<u>INFORMATION</u> WATREET D-304-Scale / Deposit Control Agent
2	<u>DESCRIPTION</u> WATREET –D 304 is a unique scale / deposit control agent for low hardness / soft water treatment. A latest type of non phosphate, polymeric scale inhibitors have been incorporated in the formulation which inhibits carbonate and sulphate deposits and protects system. Also the dispersion action of WATREET-D 300 helps to keeps the system free from chemical fouling
3	<u>SALIENT FEATURES</u> Carbonate & Sulphate Scale inhibition treatment Ready to use liquid Easy to use & safe to handle
4	<u>ANALYTICAL DATA</u> Appearance : Clear colourless to pale yellow liquid pH : 6.8 to 7.5Acidic Specific Gravity : 1.0 to 1.2 @ 25C
5	<u>HANDLING INSTRUCTIONS</u> Keep the container away from direct heat & sunlight. Keep the container closed when not in use. The product should not be swallowed and prolonged contact with the skin should be avoided. Should it come in contact with the eyes, flush with clean, cold water and get medical attention.
6	<u>RECOMMENDED DOSAGE</u> An dosage of 3 - 5 PPM is recommended but this dosage is to be adjusted in such a way that it should give protection to the system, while being economical. Dosage might vary depending on specific system parameter.

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Doc No :	PD-WT-RD310
Rev No :	0
Product :	WATREET
Product Code :	WT-RD310

PRODUCT DATA SHEET

1	<u>INFORMATION</u> WATREET RD-310-Silica Antiscalant / Antifoulant – For Reverse osmosis systems
2	<u>DESCRIPTION</u> WATREET –RD310 is a unique Amtiscalent / Antifoulant control agent for reverse osmosis systems. A latest Polymer has been incorporated in the formulation which prevent deposits and protects system. WATREET RD 310 is highly effective for controlling Silica deposits and it is also useful for salts like CaCO ₃ , CaSO ₄ , BaSO ₄ , S.SO ₄ (CaF ₂) It also Effectively disperse soluble and insoluble Iron & Silica. The dispersing action of WATREET-RD 310 helps to keeps the system free from chemical fouling.
3	<u>SALIENT FEATURES</u> Antiscalant /Antifoulant for RO system Ready to use liquid Highly effective for Silica inhibition Easy to use & safe to handle
4	<u>ANALYTICAL DATA</u> Appearance : Clear colourless to pale yellow liquid pH : 6.5 to 8.0 Specific Gravity : 1.0 to 1.1 @ 25C
5	<u>HANDLING INSTRUCTIONS</u> Keep the container away from direct heat & sunlight. Keep the container closed when not in use. The product should not be swallowed and prolonged contact with the skin should be avoided. Should it come in contact with the eyes, flush with clean, cold water and get medical attention.
6	<u>RECOMMENDED DOSAGE</u> An dosage of 3 - 5 PPM is recommended but this dosage is to be adjusted in such a way that it should give protection to the system, while being economical. Dosage might vary depending on specific system parameter.



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Doc No :	PD-WT-RD320
Rev No :	0
Product :	WATREET
Product Code :	WT-RD320

PRODUCT DATA SHEET

1	<p><u>INFORMATION</u> WATREET RD-320: Antiscalant / Antifoulant – For Reverse osmosis systems</p>
2	<p><u>DESCRIPTION</u> WATREET RD 320 is a low pH silica specific Antiscalant for control scale precipitates and to reduce particulate fouling within membrane separation. This specific product ensures reduced operating and capital cost of your RO. It is suitable for brackish water and tap water containing higher silica compounds including magnesium silicate and aluminium silicate containing feed water. Microfloc-514-Si is an aqueous solution of carboxylate, and co-polymer. These synergistic compounds adsorbed on the growth sites of the scales during crystallization and causes crystal to get distorted. It also has a great threshold effect to keep scales into solution and makes the solution highly over saturated. It also has superior dispersion ability by repelling two negative charged particles that makes the agglomeration of particles difficult. It is hydrolytically and halogen compound stability i.e. chlorine, bromine and peracetic acid under normal condition.</p>
3	<p><u>SALIENT FEATURES</u> Effectively controls scaling up to hardness level 4000ppm and higher alkalinity level. Also sequesters aluminium iron oxides / hydroxide scaling. Effectively retarding polymerisation and precipitation of silica in concentrate stream upto 400 ppm. Also controls sulphates and fluoride scaling. Effective in feed water LSI +2.8</p>
4	<p><u>ANALYTICAL DATA</u> Appearance : Pale yellow / Off white pH : 2.0±0.5 Specific Gravity : 1.27 @25C</p>
5	<p><u>HANDLING INSTRUCTIONS</u> Keep the container away from direct heat & sunlight. Keep the container closed when not in use. The product should not be swallowed and prolonged contact with the skin should be avoided. Should it come in contact with the eyes, flush with clean, cold water and get medical attention.</p>
6	<p><u>RECOMMENDED DOSAGE</u> DOSING FEEDING:-Standard dosing level 3-5 ppm subject to water quality limits to LSI+2.8, SDI-5.0, silica-400, iron-1.5, sulphates (calcium -2000 ppm). Actual doses depend upon the specific plant operating conditions i.e. feed water silica level salinity, temperature, conversion ratio and membrane selection. It should be added prior to static mixture and cartridge filter housing. Antiscalant may be feed neat or diluted and maximum dilution is 10% for ambient temperature below 300 C with RO permeate water. Compatible coagulant / flocculent should be used for pre-treatment for lower SDI control that facilitates higher recovery.</p>

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Doc No :	PD-WT-RD340
Rev No :	0
Product :	WATREET
Product Code :	WT-RD340

PRODUCT DATA SHEET

1	<u>INFORMATION</u> WATREET RD-340: Antiscalant / Antifoulant – For Reverse osmosis systems
2	<u>DESCRIPTION</u> WATREET RD 340 is a High Hardness & Moderate Silica specific Antiscalant for control scale precipitates and to reduce particulate fouling within membrane separation. This specific product ensures reduced operating and capital cost of your RO. It is suitable for brackish water and tap water containing High Hardness & Moderate Silica compounds including magnesium silicate and aluminium silicate containing feed water. It is an aqueous solution of carboxylate, and co-polymer. These synergistic compounds adsorbed on the growth sites of the scales during crystallization and causes crystal to get distorted. It also has a great threshold effect to keep scales into solution and makes the solution highly over saturated. It also has superior dispersion ability by repelling two negative charged particles that makes the agglomeration of particles difficult. It is hydrolytically and halogen compound stability i.e. chlorine, bromine and peracetic acid under normal condition.
3	<u>SALIENT FEATURES</u> Effectively controls scaling up to hardness level 4000ppm and higher alkalinity level.
4	<u>ANALYTICAL DATA</u> Appearance : Clear colourless to pale yellow colour liquid pH : 6.0 To 7.0 Specific Gravity : 1.0 To 1.1 @25C
5	<u>HANDLING INSTRUCTIONS</u> Keep the container away from direct heat & sunlight. Keep the container closed when not in use. The product should not be swallowed and prolonged contact with the skin should be avoided. Should it come in contact with the eyes, flush with clean, cold water and get medical attention.
6	<u>RECOMMENDED DOSAGE</u> An dosage of 3 - 5 PPM is recommended but this dosage is to be adjusted in such a way that it should give protection to the system, while being economical. Dosage might vary depending on specific system parameter.

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Doc No :	PD-WT-P200
Rev No :	0
Product :	WATREET
Product Code :	WT-P200

PRODUCT DATA SHEET

1	INFORMATION WATREET P200 - pH booster For Reverse Osmosis systems
2	DESCRIPTION WATREET P200 is a precise blend of alkalinity builder, softening agent and synthetic organic sludge conditioner WATREET P200 is uniquely formulated, all-in-one liquid designed specifically for low hardness softened water and demineralized Water.
3	SALIENT FEATURES Ready to use liquid Prevents and removes deposits Removes corrosion Easy to handle and feed
4	ANALYTICAL DATA Appearance : Colourless to pale yellow liquid. pH : Alkaline Specific Gravity : 1.3 - 1.4 @ 25C
5	HANDLING INSTRUCTIONS Keep the container away from direct heat & sunlight. Keep the container closed when not in use. The product should not be swallowed and prolonged contact with the skin should be avoided. Should it come in contact with the eyes, flush with clean, cold water and get medical attention.
6	RECOMMENDED DOSAGE An dosage of 5 - 15 PPM is recommended but this dosage is to be adjusted in such a way that it should give protection to the system, while being economical. Dosage might vary depending on specific system parameter.

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Doc No :	PD-WT-ROC1600
Rev No :	0
Product :	WATREET
Product Code :	WT - ROC1600

PRODUCT DATA SHEET

1	INFORMATION WATREET – ROC1600 RO mambrane acidic cleaner	
2	DESCRIPTION Watreet ROC-1600 is a highly effective multipurpose cleaning chemical for RO membranes. It very effectively removes deposits including carbonate, silicate, sulphate, phosphate of Calcium, Barium, Strontium and Iron scales. Watreet ROC-1600 is to be regularly used to clean and preserve RO membrane form fouling & scaling. Watreet ROC-1600 can be used alone or in combination with ROC-1800 if membrane is fouled with colloidal biofilm, oil, organics and deposits and to improve the plant performance and enhance membrane life.	
3	SALIENT FEATURES Effective on inorganic scale, safe to membrane surface Suitable for elevated temperatures up to 50-55C Compatible with sea water, polyamide as the chlorine resistant membrane	Removes carbonate, sulphates, silicate & foulant scale Easy to handle Removes metal oxide & hydroxyl deposits
4	ANALYTICAL DATA Appearance : Clear colourless to pale yellow liquid pH : Acidic Density : 1.0 to 1.2	
5	HANDLING INSTRUCTIONS Keep the container away from direct heat & sunlight. Keep the container closed when not in use. The product should not be swallowed and prolonged contact with the skin should be avoided. Should it come in contact with the eyes, flush with clean, cold water and get medical attention.	
6	RECOMMENDED DOSAGE Dosages depend on the severity of the membrane fouling. For very badly fouled membrane use 1:4 dilute solution and use for the cleaning. Generally 2.0-2.5 kg would suffice for a single membrane. Watreet ROC-1600 is suitable for cleaning most RO membranes, although the pH should be adjusted for use on CA membranes. 1. Watreet ROC-1800 is recommended to be used in the volume of 25-30 lit (minimum) to 40-50 lit. Maximum) for a 8"x 40" membrane element. 2. During cleaning, the flow rate should not exceed design limit. Also membrane cleaning should be carried out at low pressure < 60 psi. 3. Allow the membrane to soak in cleaning solution for minimum 45-60 minutes between recirculation. This procedure is to be repeated throughout cleaning process regularly. 4. While cleaning a multi stage plant, clean each stage individually. Flush pipe work, membrane and cleaning tank thoroughly with chlorine free water between each cleaning and reflush the plant to normal operation. 5. Generally most of the cleaners temporarily affect the membrane support structure and it takes routine operation of 5-24 hrs to stabilize the parameters.	



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Doc No :	PD-WT-ROC1800
Rev No :	0
Product :	WATREET
Product Code :	WT - ROC1800

PRODUCT DATA SHEET

1	<p><u>INFORMATION</u></p> <p>WATREET – ROC1800 RO mambrane alkaline cleaner</p>									
2	<p><u>DESCRIPTION</u></p> <p>Watreet ROC-1800 is a highly effective cleaning chemical for RO membranes. It is useful in removing deposits including colloids and also organic biofoulants. Watreer ROC-1800 is a combination of Alkaline cleaner and a novel surfactant.</p> <p>Watreet ROC-1800 is formulated for rapid cleaning and complete protection of the membrane material. When used regularly RO membranes are kept clean and preserved from fouling & scaling.</p> <p>Watreet ROC-1800 can be used in conjunction with Watreet ROC-1600 to remove inorganic scales including carbonate, bicarbonate, sulphate, & silicate to improve plant performance and enhance membrane life.</p>									
3	<p><u>SALIENT FEATURES</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Effective on foulants, but safe for membrane surface</td> <td style="width: 50%;">Effective on wide range of colloids & oil.</td> </tr> <tr> <td>Effective at high temperature</td> <td>Soften silica, sulphates & carbonate scales</td> </tr> <tr> <td>Compatible with polysulphones, polyamides & other chlorine resistant membranes</td> <td>Effective on organic matter & biofil Easy to handle and Ready to use</td> </tr> </table>	Effective on foulants, but safe for membrane surface	Effective on wide range of colloids & oil.	Effective at high temperature	Soften silica, sulphates & carbonate scales	Compatible with polysulphones, polyamides & other chlorine resistant membranes	Effective on organic matter & biofil Easy to handle and Ready to use			
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Doc No :	PD-WT-ROB900
Rev No :	0
Product :	WATREET
Product Code :	WT-ROB900

PRODUCT DATA SHEET

1	<p><u>INFORMATION</u> RO MEMBRANE CLEANER: Isothiazoline based biocide</p>									
2	<p><u>DESCRIPTION</u> RO membranes often get fouled by organic matter and other slimy deposits. This damages the membrane and reduces efficiency of RO systems. Watreet ROB-900 is an isothiazoline based broad spectrum non oxidizing microbiocide. Watreet ROB-900 is highly effective against all type of Biofilm including sessile & planktonic organisms. Watreet ROB-900 helps to keep the membrane surface free from biofouling, and preserving it clean.</p>									
3	<p><u>SALIENT FEATURES</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Planktonic & sessile microorganism growth prevented</td> <td style="width: 50%;">Broad spectrum biocide.</td> </tr> <tr> <td>Compatible with tap water, brackish water, sea water & other chlorine resistance membrane</td> <td>Suitable for sanitizing biofoulant membrane Cleans organic debris and biofilm</td> </tr> </table>	Planktonic & sessile microorganism growth prevented	Broad spectrum biocide.	Compatible with tap water, brackish water, sea water & other chlorine resistance membrane	Suitable for sanitizing biofoulant membrane Cleans organic debris and biofilm					
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Specific Gravity	:	1 to 1.1 @25C								
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6	<p><u>RECOMMENDED DOSAGE</u></p> <p>Offline cleaning Dosage of 20% by volume solution of watreet ROB-900 should be used to soak the membrane and a general dose of 0.5 to 1.0% circulate alternatively through the membrane for a contact time of 5-10 hrs. After the cleaning solution is removed, an alkaline surfactant based cleaning solution viz. Watreet RO 1800 should be used to remove dead oraganic matters.</p> <p>Online Cleaning Watreet ROB-900 is to be used to prevent biofilm development in high organic load water at 50-100 ppm dose for 5 10 hrs/day in non potable water. It is advisable to use 3-5 ppm on continuous basis. The Watreet ROB-900 can be deactivated by using sodium bisulfite before returning to system. All Biocide traces are to be removed through flushing with RO permeate water Watreet ROC-1600 is suitable for cleaning most RO membranes, although the pH should be adjusted for use on CA membranes.</p>									