

Search query (2): [SP]: 1. a method for scale inhibition treatment of an oil and gas production well or subterranean formation comprising introducing an aqueous scale inhibiting composition into the oil and gas production well or subterranean formation wherein the aqueous scale inhibiting composition comprises: i) a polycarboxylic acid (co)polymer not containing a sulfuric acid group and/or a sulfonate group and ii) one or more base such that the pH of the aqueous scale inhibiting composition is equal to or greater than 5 and equal to or less than 10. 2. the method of claim 1 wherein polycarboxylic acid (co)polymer is a homopolymer of maleic acid, a homopolymer of acrylic acid, a homopolymer of methacrylic acid, a copolymer of acrylic acid and maleic acid, a copolymer of acrylic acid and methacrylic acid, a copolymer of maleic acid and methacrylic acid, a copolymer of maleic acid and vinyl acetate, a copolymer of acrylic acid and vinyl acetate, a copolymer of acrylic acid and n-tertiarybutylacrylamide, a copolymer of methacrylic acid and vinyl acetate, a copolymer of methacrylic acid and n-tertiarybutylacrylamide, or mixtures thereof. 3. the method of claim 1 wherein the polycarboxylic acid (co)polymer is a homopolymer of maleic acid having a weight average molecular weight of from 900 to 1,000 daltons. 4. the method of claim 1 wherein the one or more base is selected from an inorganic base, an amine, an ammonium compound, a sterically hindered secondary aminoether alcohol, a phosphate compound, or a borate compound. 5. the method of claim 1 wherein the base is piperazine or derivative thereof, piperidine or derivative thereof, imidazole or derivative thereof, or a borate or derivative thereof. 6. the methods of claims 1 and 2 wherein the base is potassium hydroxide, lithium hydroxide, or sodium hydroxide. 7. the method of claim 1 wherein the aqueous scale inhibiting composition is introduced by a squeeze treatment. 8. the method of claim 1 wherein the aqueous scale inhibiting composition is introduced by a capillary injection treatment.

Results: 15

1) Family number: 43272091 (US2010292106A)

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Title: METHODS OF MINIMIZING SULFATE SCALE IN OIL FIELD

Abstract: Methods of controlling barium sulfate scale in oil field applications are disclosed. These methods involve the application of one or more carboxylated oligomers to an aqueous system in the oil field. Carboxylated oligomers include polymaleic acid and polyethercarboxylates. Additionally, methods of neutralizing polymaleic acid and use of this neutralized product for barium sulfate scale control are disclosed.

Classifications:

International (IPC 8-9): C02F103/10 C02F5/10 C09K8/528 (Advanced/Invention);
C02F103/10 (Advanced/Non-invention);
C02F5/10 (Core/Invention)

International (IPC 1-7): C02F103/10 C02F5/10

CPC: C02F5/10 C02F2103/10

European: C02F5/10 M02F103/10

US: 507/90 507/90P

Family:

Publication number	Publication date	Application number	Application date
AU2008322980 AA	20090522	AU20080322980	20081111
CA2705674 AA	20090522	CA20082705674	20081111
CN101896435 A	20101124	CN200880120729	20081111
EA201070604 A1	20110429	EA20100070604	20081111
EP2215022 A2	20100811	EP20080850586	20081111
EP2500326 A1	20120919	EP20120171984	20081111
IN00948MN2010 A	20100917	IN2010MN00948	20100507
US2010292106 AA	20101118	US20080742737	20081111
WO09062924 A2	20090522	WO2008EP65278	20081111
WO09062924 A3	20090730	WO2008EP65278	20081111

Priority:

US20070987652P 20071113 EP20080850586 20081111 US20080742737 20081111
WO2008EP65278 20081111

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Inventor(s): STUART PETER ROBERT HOLT ; KLIN A RODRIGUES

Agent(s): SPRUSON AND FERGUSON; ALFERINK PETRUS J T; DE VRIES ADRIAAN JACOBUS; AKZO NOBEL INC;
SCHALKWIJK PIETER CORNELIS

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

2) Family number: 8462159 (US5294686A)

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Title: Process for efficient utilization of chain transfer agent

Abstract: A process for efficiently utilizing hypophosphorous acid or salts thereof as a chain transfer agent is provided wherein the polymerization is conducted to a final polymer solids level of at least about 50 percent by weight. The polymers produced are useful as dispersants for paint formulations, additives for laundry and machine dishwashing detergents, mineral dispersants, dispersants for kaolin clay slurries and scale inhibitors, dispersants and corrosion inhibitors for water treatment and oil production.

Classifications:

International (IPC 8-9): C08F110/00 C08F2/38
C08F20/00 (Advanced/Invention);

C08F2/38 (Core/Invention);
C08F110/00 C08F2/38 (Core/Non-invention)
International (IPC 1-7): C08F110/00 C08F122/04 C08F2/38 C08F20/00
C08F20/04 C08F20/4
CPC: C08F2/38
European: C08F2/38
US: 526/233 526/271

PatBase - NZ250871_A

END

Family:

Publication number	Publication date	Application number	Application date
AT166892 E	19980615	AT19940300992T	19940211
AU199455163 A1	19941006	AU19940055163	19940215
AU674368 B2	19961219	AU19940055163	19940215
BRPI9400027 A	19941101	BR1994PI00027	19940105
CA2110201 AA	19940930	CA19932110201	19931129
CN1057536 C	20001018	CN19941000601	19940104
CN1093091 A	19941005	CN19941000601	19940104
DE69410673 D1	19980709	DE19946010673	19940211
DE69410673 T2	19990318	DE19946010673T	19940211
EP0618240 A1	19941005	EP19940300992	19940211
EP0618240 B1	19980603	EP19940300992	19940211
ES2118325 T3	19980916	ES19940300992T	19940211
JP3343399 B2	20021111	JP19930155523	19930625
JP6287208 A2	19941011	JP19930155523	19930625
KR100309221 B1	20011215	KR19930027979	19931216
KR19940021596 A	19941019	KR19930027979	19931216
NZ250871 A	19950926	NZ19940250871	19940214
PH30160 A	19970121	PH19930047362	19931201
TW300232 B	19970311	TW19940100451	19940120
US5294686 A	19940315	US19930038429	19930329

Priority:

US19930038429 19930329 CA19932110201 19931129

Probable Assignee: ROHM AND HAAS CO

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Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; GOWLING LAFLEUR HENDERSON LLP

Designated states: AT BE CH DE DK ES FR GB GR IE IT LI LU NL PT SE

3) Family number: 20628193 (US6148913A)

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Title: OIL AND GAS FIELD CHEMICALS

Abstract: This invention is a process and a formulation for minimising the squeezing and shut-in operations needed to inhibit scale in a production well using the precipitation squeeze method by injecting into an oil-bearing rock formation a water-miscible formulation comprising: (a) a water-miscible surfactant which is in liquid form, (b) a solution of water-soluble metal salt comprising a multivalent cation and (c) a solution of a water-miscible scale-inhibiting compound comprising an anionic component capable of forming a scale-inhibiting precipitate in situ in the presence of the cations in (b) upon injection into the rock formation, wherein the surfactant is a glycol ether and the minimum ion concentration of the scale inhibiting compound (c) is 50 ppm based on the total weight of the formulation.

Classifications:

International (IPC 8-9): C02F5/10 C09K8/524 C09K8/528 C09K8/54 E21B37/06 E21B43/12 E21B43/22 (Advanced/Invention); C09K8/52 C09K8/54 E21B37/00 E21B43/16 (Core/Invention)

International (IPC 1-7): C09B67/36 C09K7/02 E21B37/06 E21B43/12 E21B43/22

CPC: Y10S507/928 E21B37/06 C09K8/524 C09K8/528

European: C09K8/524 C09K8/528 E21B37/06

US: 166/263 166/279 507/261 507/928

Family:

Publication number	Publication date	Application number	Application date
AR011403 AA	20000816	AR1998P100141	19980113
AU199853336 A1	19980803	AU19980053336	19971224
AU718313 B2	20000413	AU19980053336	19971224
CA2245886 AA	19980813	CA19972245886	19971224
CA2245886 C	20050315	CA19972245886	19971224
CO5031323 A1	20010427	CO19980000798	19980109
EA000901 B1	20000626	EA19980000801	19971224
EA199800801 A1	19990429	EA19980000801	19971224
EP0886719 A1	19981230	EP19970950339	19971224
EP2287441 A2	20110223	EP20100179985	19971224
EP2287441 A3	20110316	EP20100179985	19971224
GB9700532 A0	19970305	GB19970000532	19970113
IN00008DE1998 A	20100326	IN1998DE00008	19980102
IN01685DE2005 A	20070803	IN2005DE01685	20050629
IN253832 B	20120831	IN1998DE00008	19980102
MY120014 A	20050830	MY19980000127	19980112
NO321722 B1	20060626	NO19980004125	19980907
NO984125 A	19980907	NO19980004125	19980907
NO984125 A0	19980907	NO19980004125	19980907
RO117977 B1	20021129	RO19980001380	19971224
SA1124 B1	20060815	SA19980190109	19980531
US6148913 A	20001121	US19980128624	19980804
VN3181 A1	20030127	VN19980000733	19980825
WO9830783 A1	19980716	WO1997GB03553	19971224

Priority:

GB19970000532 19970113 EP19970950339 19971224 WO1997GB03553 19971224

Probable Assignee: BP PLC

Assignee(s): (std): BP CHEM INT LTD ; BP CHEMICAL LTD ; BP CHEMICALS LIMITED ; COLLINS IAN RALPH ; BP CHEMICALS LTD ; INEOS EUROPE LTD ; BP PLC

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Inventor(s): LAN RALPH COLLINS ; IAN COLLINS

Agent(s): GRIFFITH HACK; FETHERSTONHAUGH AND CO; DILIA MARIA RODRIGUEZ DALEMAN; RICKARD TIMOTHY MARK ADRIAN

Designated states: AL AM AT AU AZ BA BB BE BG BR BY CA CH CN CU CZ DE DK EE ES FI FR GB GE GH GM GR HU ID IE IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MC MD MG MK MN MW MX NL NO NZ PL PT RO RU SD SE SG SI SK SL SZ TJ TM TR TT UA UG US UZ VN YU ZW

4) Family number: 46427228 (CN101768430A)

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Title: SCALE INHIBITION ANTISCALING AGENT FOR OIL-WATER WELL SALT PREVENTION AND SCALE-INHIBITION OPERATION AND PREPARATION PROCESS THEREOF

Abstract: The invention relates to oil-water well salt prevention and scale-inhibition operation in the oil-field development process and a scale-inhibition agent used in a cooling circulation system, in particular to a scale inhibition antiscaling agent for oil-water well salt prevention and scale-inhibition operation and a preparation process thereof; the scale inhibition antiscaling agent is characterized in that: the scale inhibition antiscaling agent at least comprises 1) 2.0-2.5kg of ethanediamine tetramethylene phosphonate; 2) 4.5-5.0kg of polymaleic acid; 3) 4.5-5.0kg of sodium hexametaphosphate; 4) 6.5-7.0kg of triethanolamine; the preparation process of the scale inhibition antiscaling agent for oil-water well salt prevention and scale-inhibition operation is characterized in that: at normal temperature, 4.5-5.0kg of the sodium hexametaphosphate is dissolved by 30-35kg of clear water and is continuously stirred for 20-40 minutes, and then 6.5-7.0kg of the triethanolamine is slowly added in the mixture, after complete mixing, and 2.0-2.5kg of the ethanediamine tetramethylene phosphonate and 4.5-5.0kg of the polymaleic acid are slowly added continuously while stirring is carried out, so as to prepare the scale inhibition antiscaling agent; the scale inhibition antiscaling agent has hypersalinity resistance and high calcium ion resistance, takes alkalinescence-neutrality, and has no strong corrosivity to injection-production equipment.

Classifications:

International (IPC 8-9): C09K8/528 (Advanced/Invention); C09K8/52 (Core/Invention)

Family:

Publication number	Publication date	Application number	Application date
CN101768430 A	20100707	CN201010118367	20100305
CN101768430 B	20120509	CN201010118367	20100305

Priority:

CN201010118367 20100305

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Inventor(s): JIANG SHAOJING ; ZHOU YE ; LI SHIQIANG ; HONG LING ; LIU CHUNYAN ; LI QIANG ; HUANG CHUNXIA ; WANG XIANGZENG ; ZHAO LI ; WANG CHENGJUN ; GAO RUIMIN

5) Family number: 2228278 (US4711725A)

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Title: Method of stabilizing aqueous systems

Abstract: A process for stabilizing aqueous systems containing scale forming salts and inorganic particulates by adding to such systems an effective amount of selected low molecular weight water soluble polymers containing from about 10 to about 84 weight percent (meth)acrylic acid units, greater than 11 to less than about 40 weight percent acrylamido alkyl or aryl sulfonate units and from at least about 5 to about 50 weight percent of one or more units selected from vinyl esters, vinyl acetate and substituted acrylamides, is provided. The terpolymers and interpolymers used in the process provide improved phosphate, iron and zinc stabilization while maintaining their water solubility. Certain preferred polymers also exhibit a high degree of hydrolytic stability at high pH conditions.

Classifications:

International (IPC 8-9): B01F17/52 C02F5/00 C02F5/08 C02F5/10 C02F5/12 C08F20/52 C08F220/00 C08F220/04 C08F220/06

C08F220/54 (Advanced/Invention);

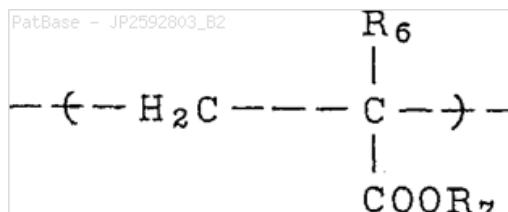
C02F5/10 C08F220/00 (Core/Invention)

International (IPC 1-7): B01F17/0 B01F17/52 C02B1/00 C02F5/10 C02F5/12 C02F5/14 C08F20/00 C08F212/14 C08F218/00 C08F218/04 C08F218/08 C08F220/06 C08F220/38 C08F220/54 C08F220/56 C08F220/58 C08L31/04 C08L33/04 C08L33/2 C08L33/26

CPC: C02F5/12 C02F5/125 C08F220/06

European: C02F5/12 C02F5/12B C08F220/06

US: 210/701 252/180



Family:

Publication number	Publication date	Application number	Application date
AT54001 E	19900715	AT19860304893T	19860625
AU198659234 A1	19870108	AU19860059234	19860625
AU596974 B2	19900524	AU19860059234	19860625
BRPI8602820 A	19870210	BR1986PI02820	19860618
CA1336565 A1	19950808	CA19860511381	19860612
DE3672136 D1	19900726	DE19863672136	19860625
DK300286 A	19861227	DK19860003002	19860625
DK300286 A0	19860625	DK19860003002	19860625
EP0206814 A2	19861230	EP19860304893	19860625
EP0206814 A3	19870826	EP19860304893	19860625
EP0206814 B1	19900620	EP19860304893	19860625
EP0206814 B2	19951213	EP19860304893	19860625
ES2000120 AF	19871216	ES19860000009	19860626
GR861663 B	19861009	GR19860101663	19860626
IE58996 B	19931203	IE19860001676	19860623
IE861676 L	19861226	IE19860001676	19860623
IL79238 A0	19860930	IL19860079238	19860625
IL79238 A1	19910310	IL19860079238	19860625
JP2592803 B2	19970319	JP19860149329	19860625
JP62129136 A2	19870611	JP19860149329	19860625
MX164491 B	19920820	MX19860002916	19860624
US4711725 A	19871208	US19860861732	19860507

Priority:

US19850749059 19850626 US19860861732 19860507 CA19860511381 19860612
EP19860304893 19860625 EP19860304893 19860625

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Assignee(s): (std): ROHM AND HAAS

Assignee(s): ROHM AND HAAS CO ; ROHM AND HAAS CO A CORP OF DE ; ROHM AND HAAS CO PHILADELPHIA PA US ; ROHM AND HAAS COMPANY ; AMICK DAVID RICHARD ; HANN WILLIAM MATHIS ; NATOLI JOHN

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Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; GOWLING LAFLEUR HENDERSON LLP;

Designated states: AT BE CH DE FR GB IT LI LU NL SE

6) Family number: 3818331 (US4758367A)

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Title: Triethylene glycol-based heat transfer fluids

Abstract: Single-phase, thermally-stable, corrosion-inhibiting heat transfer fluids comprising triethylene glycol, a corrosion-inhibiting amount of a mixture of a soluble borate compound and a soluble Group VIA metal oxygenate compound selected from the group consisting of chromate, molybdate and tungstate compounds, and, optionally, water, a copper corrosion inhibitor and sodium nitrate.

Classifications:**International (IPC 8-9):** C09K5/02 C09K5/08 C23F11/12

C23F11/18 (Advanced/Invention);

C09K5/00 (Core/Invention)

International (IPC 1-7): C09K5/00 C09K5/02 C23F11/12 C23F11/18**CPC:** C09K5/08**European:** C09K5/08**US:** 252/74 252/75 252/77

PatBase - CA1292612_A1

**SUBSTITUTE
REPLACEMENT**

SECTION Is not Present
Cette Section est Absente

Family:

Publication number	Publication date	Application number	Application date
CA1292612 A1	19911203	CA19870536059	19870430
US4758367 A	19880719	US19860865669	19860522

Priority:

US19860865669 19860522 CA19870536059 19870430

Probable Assignee: UNION CARBIDE A CORP OF NY CORP**Assignee(s):** (std): UNION CARBIDE CORP**Assignee(s):** GEORGE KATHLEEN FRANCE ; UNION CARBIDE A CORP OF NY CORP**Inventor(s):** (std): GEORGE KATHLEEN F**Inventor(s):** GEORGE KATHLEEN FRANCE**Agent(s):** SIM AND MCBURNEY**7) Family number: 29033436 (US2007062879A)**

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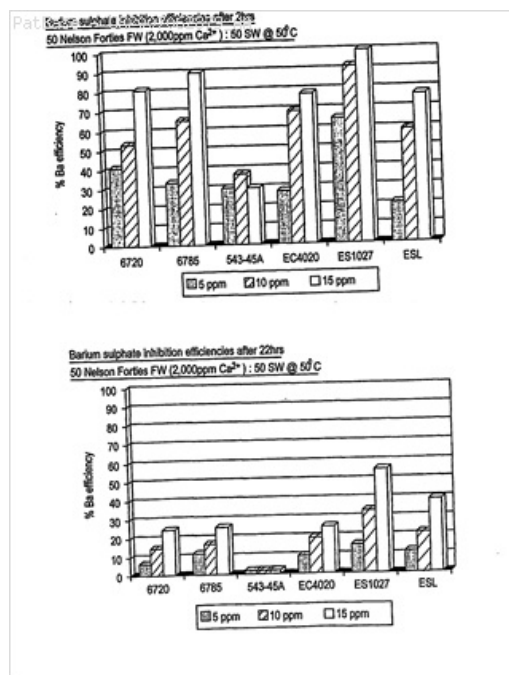
Title: SCALE INHIBITION IN WATER SYSTEMS

Abstract: The present invention relates to use of compositions comprising: (a) a copolymer of an unsaturated phosphonic acid (or salt of such an acid) with an unsaturated sulphonic acid (or salt of such an acid) or an unsaturated carboxylic acid (or salt of such an acid); or (b) a terpolymer of an unsaturated phosphonic acid (or salt of such an acid) with an unsaturated sulphonic acid (or salt of such an acid) and an unsaturated carboxylic acid (or salt of such an acid). These compositions are used to control the formation of scale in water systems.

Classifications:**International (IPC 8-9):** C02F5/14 (Advanced/Invention);

C02F5/10 (Core/Invention)

International (IPC 1-7): C02F5/14**CPC:** C02F5/14 C09K8/528**European:** C02F5/14 C09K8/528**US:** 166/279 166/310 210/699 210/701 252/180 507/237



Family:

Publication number	Publication date	Application number	Application date
EP1648832 A1	20060426	EP20040743529	20040723
GB200317208 A0	20030827	GB20030017208	20030723
MX262315 B	20081119	MX2006PA00773	20060120
MXPA06000773 A1	20060711	MX2006PA00773	20060120
MXPA06000773 A1	20060801	MX2006PA00773	20060120
US2007062879 AA	20070322	US20040562710	20040723
US7572381 BB	20090811	US20040562710	20040723
WO05012193 A1	20050210	WO2004GB03197	20040723

Priority:

GB20030017208 20030723 WO2004GB03197 20040723

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Assignee(s): RHODIA UK LIMITED ; RHODIA U K LIMITED ; RHODIA CONSUMER SPECIALTIES LIMITED ; RHODIA CONSUMER SPECIALTIES LTD

Inventor(s): (std): HILLS EMMA ; JONES CHRISTOPHER R ; JONES CHRISTOPHER RAYMOND ; TALBOT ROBERT E ; TALBOT ROBERT ERIC

Inventor(s): TALBOT ROBERT ; JONES CHRISTOPHER

Agent(s): JEAN LOUIS SEUGENT RHODIA INC; BUCHANAN INGERSOLL AND ROONEY PC

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

8) Family number: 51104530 (US2012118575A)

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Title: THERMALLY STABLE SCALE INHIBITOR COMPOSITIONS

Abstract: Methods for scale inhibition treatment of oil or gas production wells generally include injecting a scale inhibition composition into the oil or gas production well, wherein the scale inhibition composition comprises one or more polymers, each polymer comprising recurring units of a first monomer and a second monomer, wherein: (i) the first monomer is selected from maleic acid, maleic anhydride, fumaric acid, acrylic acid, salts thereof, or combinations thereof; and (ii) the second monomer is selected from vinyl sulfonic acid, allyl sulfonic acid, methallylsulfonic acid, salts thereof, or combinations thereof; wherein the concentration of the polymers in the composition is about 10 to about 60 percent of the polymers by weight of the composition; and wherein the composition has a pH of about 7 to about 8.5.

Classifications:

International (IPC 8-9): C02F5/10 C09K8/528

E21B43/00 (Advanced/Invention)

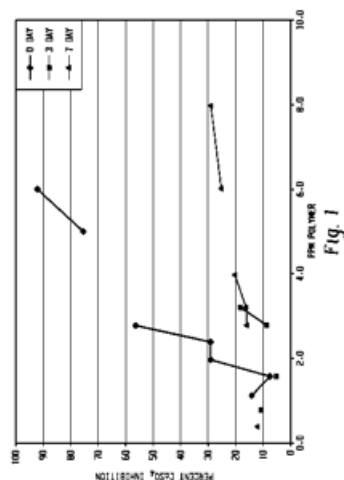
CPC: C09K8/528 C02F5/10 C02F2103/10 C02F2209/02 C02F2209/03

C02F2209/06

European: C02F5/10 C09K8/528 M02F103/10 M02F209/02 M02F209/03

M02F209/06

US: 166/310 507/227 507/227S

**Family:**

Publication number	Publication date	Application number	Application date
AU2011325942 AA	20120518	AU20110325942	20111111
AU2016200974 AA	20160303	AU20160200974	20160216
AU2016200974 BB	20170824	AU20160200974	20160216
AU2017210549 AA	20170824	AU20170210549	20170802
CA2817745 AA	20130510	CA20112817745	20111111
EP2638125 A1	20130918	EP20110791126	20111111
US2012118575 AA	20120517	US20110294887	20111111
WO2012065129 A1	20120518	WO2011US60469	20111111

Priority:

US20100412940P 20101112	AU20110325942 20111111	US20110294887 20111111
WO2011US60469 20111111	AU20160200974 20160216	AU20170210549 20170802

Probable Assignee: KEMIRA OYJ**Assignee(s):** (std): GRIFFIN JAMES ; KEMIRA OY ; KEMIRA OYJ**Inventor(s):** (std): GRIFFIN JAMES**Agent(s):** FB RICE; FB RICE PTY LTD; GOWLING LAFLEUR HENDERSON LLP; HALLYBONE HUW GEORGE; SMYTHE NICOLE

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

9) Family number: 21781640 (US2384553A)

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Title: ALCOHOL ANTIFREEZE LIQUIDS

Abstract: I claim: 1. An anti-freeze cooling fluid comprising a water-soluble alcohol freezing-point depressant, and an inhibitor composed of a mixture of soluble inorganic borate and inorganic phosphate salts. 2. An anti-freeze cooling fluid comprising a water-soluble alcohol freezing-point depressant, and an inhibitor composed of a mixture of a soluble inorganic borate salt, a soluble inorganic phosphate salt, and mercaptobenzothiazole. 3. An anti-freeze cooling fluid comprising a water-soluble alcohol freezing-point depressant, and an inhibitor composed of a mixture of borate and phosphate salts of an alkali metal, each component in an amount of about 0.10% to 5.0% by weight of the alcohol. ~ 4. An antifreeze cooling fluid comprising a water-soluble alcohol freezing-point depressant, and an inhibitor composed of a mixture of a borate salt of an alkali metal, a phosphate salt of an alkali metal, and mercaptobenzothiazole, each of said components being present in an amount of about 0.10% to 5.0% by weight of the alcohol. 5. An anti-freeze cooling fluid comprising an ethylene glycol freezing-point depressant and an inhibitor composed of a mixture of potassium borate and potassium phosphate, said composition being formed in situ in the glycol by addition thereto, in percent by weight of the glycol, of about 1.0% boric acid, about 0.6% phosphoric acid, and about 1.8% potassium hydroxide. 6. An anti-freeze cooling fluid comprising an ethylene glycol freezing-point depressant and an inhibitor composed of a mixture of sodium borate and sodium phosphate, said composition being formed in situ in the glycol by addition thereto, in percent by weight of the glycol, of about 1.0% boric acid, about 0.6% phosphoric acid, and about 1.1 % sodium hydroxide. 7. An anti-freeze cooling fluid comprising an ethylene glycol freezing-point depressant and an inhibitor composed of a mixture of potassium borate, potassium phosphate and mercaptobenzothiazole: the salt components being formed in situ in the glycol by addition thereto, in percent by weight of the glycol, of about 1.0% boric acid, about 0.6% phosphoric acid, and about 1.6% potassium hydroxide; and the mercaptobenzothiazole being present in an amount of about 0.05% to 0.10% by weight of the glycol. 8. An anti-freeze cooling fluid comprising an ethylene glycol freezing-point depressant and an inhibitor composed of a mixture of sodium borate, sodium phosphate and mercaptobenzothiazole: the salt components being formed in situ in the glycol by addition thereto, in percent by weight of the glycol, of about 1.0% boric acid, about 0.6% phosphoric acid, and about 1.1% sodium hydroxide; and the mercaptobenzothiazole being present in an amount of about 0.05% to 0.10% by weight of the glycol.

9. Method of preventing corrosion of an alcohol-containing cooling fluid in a circulatory cooling system, which consists in circulating said cooling fluid with an admixture thereto of a composition comprising a mixture of a soluble inorganic borate salt and a soluble inorganic phosphate salt. 10. Method of preventing corrosion of an alcohol-containing cooling fluid in a circulatory cooling system, which consists in circulating said cooling fluid with an admixture thereto of a composition comprising a mixture of a borate salt of an alkali metal, a phosphate salt of an alkali metal, and mercaptobenzothiazole, each of said components being present in an amount of about 0.05% to 5.0% by weight of the alcohol. 11. Method of preventing corrosion of an ethylene Glycol-containing cooling fluid in a circulatory cooling system, which consists in circulating said cooling fluid with an admixture thereto of a composition comprising a mixture of potassium borate, potassium phosphate and mercaptobenzothiazole; the salt components being formed in situ in the glycol by addition thereto, in percent by weight of the glycol, of about 1.0% boric acid, about 0.6% phosphoric acid, and about 1.6% potassium hydroxide; and the mercaptobenzothiazole being present in an amount of about 0.05% to 0.10% by weight of the glycol

Classifications:

International (IPC 8-9): C09K5/20 C23F11/08 C23F11/18 (Advanced/Invention);

C09K5/00 C23F11/08 (Core/Invention)

CPC: C09K5/20 C23F11/08 C23F11/188

European: C09K5/20 C23F11/08 C23F11/18M2

US: 252/389.4 252/390 252/400.2 252/401 252/75 252/78.1 568/701

Family:

Publication number	Publication date	Application number	Application date
US2384553 A	19450911	US19430504262	19430929

Priority:

US19430504262 19430929

Probable Assignee: CARBIDE AND CARBON CHEM CORP

Assignee(s): (std): CARBIDE AND CARBON CHEM CORP

Assignee(s): CARBIDE AND CARBON CHEMICALS CORP

Inventor(s): (std): KIFFER ALFRED D

10) Family number: 4304654 (US4566973A)

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Title: SCALE INHIBITION IN WATER SYSTEMS

Abstract: In a preferred embodiment, this invention relates to a method for inhibiting formation of phosphate scale in water systems by the addition of a threshold amount of a water-soluble copolymer of 40 to 95 weight parts of an acrylic acid with 5 to 60 parts of a substituted acrylamide, based on a total of 100 parts of polymerized monomers.

Classifications:

International (IPC 8-9): C02F5/00 C02F5/08 C02F5/10 C02F5/12 C13B10/00 (Advanced/Invention);

C02F5/00 C02F5/08 C02F5/10 (Advanced/Non-invention);

C02F5/00 C02F5/08 C02F5/10 (Core/Invention)

International (IPC 1-7): A23L2/26 C02F1/00 C02F1/62 C02F5/10 C02F5/12 C08F20/56 C13D1/00 C23F14/02

CPC: Y10S507/927 C02F5/12

European: C02F5/12

US: 203/7 210/701 252/180 252/8.55B 426/271 507/225 507/927

Family:

Publication number	Publication date	Application number	Application date
AU198545103 A1	19860213	AU19850045103	19850717
AU571714 B2	19880421	AU19850045103	19850717
BRPI8503692 A	19860506	BR1985PI03692	19850805
CA1239564 A1	19880726	CA19850487078	19850718
CN1013955 B	19910918	CN19851006280	19850820
CN85106280 A	19870218	CN19851006280	19850820
DK338285 A	19860207	DK19850003382	19850724
DK338285 A0	19850724	DK19850003382	19850724
EP0171048 A2	19860212	EP19850109779	19850803
EP0171048 A3	19860910	EP19850109779	19850803
ES545903 A0	19870401	ES19850545903	19850805
ES8704516 A1	19870401	ES19850545903	19850805
IN165163 A	19890819	IN1985DE00578	19850719
JP61042400 A2	19860228	JP19850171261	19850805
KR19860001766 A	19860322	KR19850005649	19850806
KR920008179 B1	19920925	KR19850005649	19850806
PT80917 A	19850901	PT19850080917	19850805
PT80917 B	19871230	PT19850080917	19850805
US4566973 A	19860128	US19840638158	19840806
ZA8505512 A	19860430	ZA19850005512	19850722

Priority:

US19840638158 19840806 CA19850487078 19850718 CN19851006280 19850820

Probable Assignee: NOVEON IP HOLDINGS CORP

Assignee(s): (std): GOODRICH CO B F

Assignee(s): GOODRICH B F CO THE ; GOODRICH B F CO ; GOODRICH COMPANY THE B F ; BF GOODRICH CO ; GOODRICH B F COMPANY THE ; GOODRICH BF CO THE ; GOODRICH BF CO ; GOODRICH BF ; GOODRICH CO BF ; PMD HOLDINGS CORP ; NOVEON IP HOLDINGS CORP ; THE B F GOODRICH COMPANY ; THE B F GOODRICH CO ; MASLER WILLIAM F III ; NOVEON IP HOLDINGS CORP WAS KNOWN AS PMD HOLDINGS CORP.. ; PMD HOLDINGS A OF ILLINOIS CORP ; AMJAD ZAHID ; B F GOODRICH CO ; B F GOODRICH CO THE ; B F GOODRICH COMPANY THE ; BANKERS TRUST CO

Inventor(s): (std): AMJAD ZAHID ; FRANK MASLER WILLIAM ; MASLER III WILLIAM F ; MASLER III WILLIAM FRANK ; MASLER WILLIAM F ; MASLER WILLIAM FRANK ; ZAHIDO AMUJIYADO ; UIRIAMU FURANKU MASURAA ZA SAA ; MASLER WILLIAM FRANK III ; MASLER WILLIAM F III

Inventor(s): WILLIAM FRANK MASLER III ; UIRIAMU FURANKU MASURAA ZA SAADO ; WILLIAM FRANK MASLER ; ZAHID AMJAD

Agent(s): GRIFFITH HACK; OGILVY RENAULT LLP SENCRL SRL

Designated states: AT BE CH DE FR GB IT LI LU NL SE

11) Family number: 3644732 (US4575425A)

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Title: Process for controlling calcium oxalate scale over a wide pH range

Abstract: The instant invention is directed to a composition useful for inhibiting precipitation of calcium oxalate in aqueous systems comprising: (a) a water soluble phosphate, phosphonate or phosphinate; and (b) a water soluble polyelectrolyte wherein the ratio of component (a) to component (b) ranges from 10:1 to 1:10. The instant invention is further directed to a method of inhibiting the precipitation and deposition of calcium oxalate scale in an aqueous system, comprising adding to said system an effective amount of the above described composition, wherein said aqueous system has a pH greater than or equal to 2.0.

Classifications:

International (IPC 8-9): C02F5/00 C02F5/08 C02F5/10 C02F5/12 C02F5/14 (Advanced/Invention); C02F5/00 C02F5/08 C02F5/10 (Core/Invention)

International (IPC 1-7): C02F5/10 C02F5/14

CPC: C02F5/105 C02F5/125 C02F5/14

European: C02F5/10B C02F5/12B C02F5/14

US: 210/697 210/700 210/701 252/180 252/181

Family:

Publication number	Publication date	Application number	Application date
CA1252686 A1	19890418	CA19850497856	19851217
JP61153199 A2	19860711	JP19850289504	19851224
US4575425 A	19860311	US19840685513	19841224

Priority:

US19840685513 19841224 CA19850497856 19851217

Probable Assignee: CALGON CORP

Assignee(s): (std): CALGON CORP

Assignee(s): ECC SPECIALTY CHEMICALS INC ; FARKAS JOHN P ; YORKE MONICA A ; BOFFARDI BENNETT P

Inventor(s): (std): BOFFARDI BENNETT P ; FARKAS JOHN P ; YORKE MONICA A ; MONIKA EE YOOKU ; JIYON PII FUAAKASU ; BENETSUTO PII BOTSUFUARUDEI

Agent(s): GOUDREAU GAGE DUBUC

12) Family number: 49696777 (US2013023449A)

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Title: SCALE INHIBITOR

Abstract: This invention relates to a process for inhibiting scaling in a subterranean oil or gas producing formation, comprising adding to the formation a composition comprising a metal chelant, a scale inhibitor and divalent metal cations, wherein the stability constant of the metal chelant-metal cation chelate at ambient temperature is equal to or higher than the stability constant of the chelate formed from the metal cations and the scale inhibitor, and wherein the solubility of the chelate formed from the metal cations and the scale inhibitor decreases with increasing temperature.

Classifications:

International (IPC 8-9): B08B17/02 C09K8/52 C09K8/528 C23F15/00 E21B43/28 E21B43/285 (Advanced/Invention); E21B37/06 (Advanced/Non-invention)

CPC: C09K8/52 C09K8/528

European: C09K8/528

US: 507/219 507/221 507/236 507/237 507/241

Family:

Publication number	Publication date	Application number	Application date
CA2794938 AA	20111006	CA20112794938	20110324
CN102858906 A	20130102	CN201180017147	20110324
DE602010004917 D1	20130411	DE201060004917T	20100401
DK2371923 T3	20130506	DK20100003656T	20100401
EP2371923 A1	20111005	EP20100003656	20100401
EP2371923 B1	20130213	EP20100003656	20100401
EP2556130 A1	20130213	EP20110710138	20110324
ES2401247 T3	20130418	ES20100003656T	20100401
US2013023449 AA	20130124	US20110638440	20110324
US2014336089 AA	20141113	US20140445303	20140729
US8822390 BB	20140902	US20110638440	20110324
WO11120655 A1	20111006	WO2011EP01468	20110324

Priority:

EP20100003656 20100401 EP20110710138 20110324 WO2011EP01468 20110324
US20120638440 20120928 US20140445303 20140729

Probable Assignee: CLARIANT FINANCE BVI LTD

Assignee(s): (std): CLARIANT FINANCE BVI LTD ; CLARIANT INT LTD ; TODD MALCOLM JOHN ; HEATH STEVE ; TODD MALCOLM

Assignee(s): CLARIANT INTERNATIONAL LTD ; CLARIANT FINANCE BVI LTD ROAD TOWN ; CLARIANT FINANCE (BVI) LIMITED ; CLARIANT FINANCE BVI LIMITED

Inventor(s): (std): HEATH STEVE ; TODD MALCOLM ; TODD MALCOLM JOHN

Agent(s): FETHERSTONHAUGH AND CO; MIKULECKY KLAUS DIPL CHEM DRPHILNAT; MIKULECKY KLAUS; Mikulecky Klaus; LEHMANN MARIA ISABEL; TOD A; MIKULECKY KLAUS ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

13) Family number: 11933778 (US6001940A)

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Title: Process for preparing anhydride polymers

Abstract: A process for preparing anhydride polymers in aromatic hydrocarbon solvents using a dialkyl peroxide/amine compound initiator system is disclosed. The amine compound allows more efficient use of free-radical initiators while achieving high monomer conversion polymerizations compared to conventional initiator systems, particularly in the preparation of maleic anhydride polymers.

Classifications:

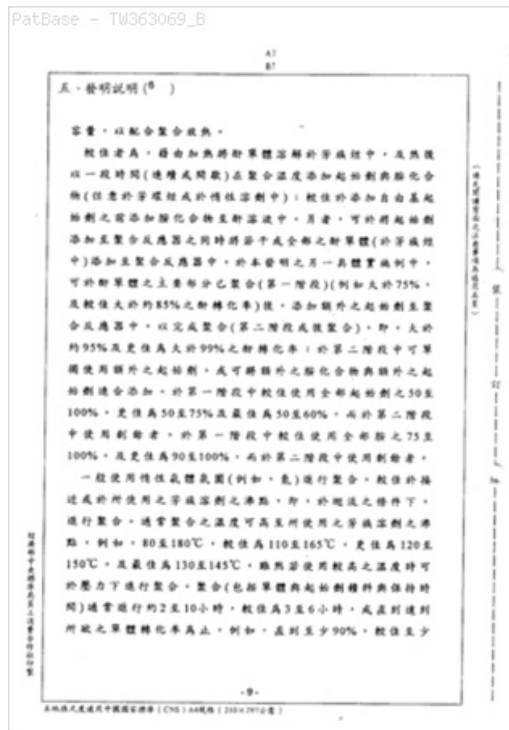
International (IPC 8-9): C08F2/06 C08F2/44 C08F22/04 C08F22/06 C08F22/06 C08F4/32 C08F4/34 C08G67/04 (Advanced/Invention); C08F2/44 C08F22/06 (Advanced/Non-invention); C08F22/00 (Core/Invention); C08G67/04 (Core/Non-invention)

International (IPC 1-7): C08F2/00 C08F2/06 C08F2/44 C08F22/04 C08F22/06 C08F22/06 C08F4/32 C08F4/34 C08G67/04 C08K5/17

CPC: C08F22/04

European: C08F22/04

US: 526/217 526/227 526/236 526/271



Family:

Publication number	Publication date	Application number	Application date
AT231168 E	20030215	AT19980301904T	19980313
AU199858340 A1	19980924	AU19980058340	19980310
AU741378 B2	20011129	AU19980058340	19980310
BRPI9800869 A	19991214	BR1998PI00869	19980311
CA2231091 AA	19980918	CA19982231091	19980304
CN1158313 C	20040721	CN19981005704	19980317
CN1193630 A	19980923	CN19981005704	19980317
DE69810682 D1	20030220	DE19986010682	19980313
DE69810682 D1	20030220	DE19986010682T	19980313
DE69810682 T2	20031106	DE19986010682T	19980313
EP0866078 A2	19980923	EP19980301904	19980313
EP0866078 A3	19981216	EP19980301904	19980313
EP0866078 B1	20030115	EP19980301904	19980313
ID20067 A	19980924	ID19980000333	19980306
JP10259215 A2	19980929	JP19980082411	19980316
JP4101921 B2	20080618	JP19980082411	19980316
KR100554064 B1	20060522	KR19980009367	19980318
KR19980080434 A	19981125	KR19980009367	19980318
PL325386 A1	19980928	PL19980325386	19980317
TH35016 A	19990921	TH19981000871	19980316
TW363069 B	19990701	TW19980103953	19980317
US6001940 A	19991214	US19980025086	19980217

Priority:

US19970041224 19970318 US19970041224P 19970318 US19980025086 19980217
CA19982231091 19980304 KR19980009367 19980318

Probable Assignee: ROHM AND HAAS CO**Assignee(s):** (std): ROHM AND HAAS**Assignee(s):** ROHM AND HAAS CO ; ROHM AND HAAS CO PHILADELPHIA ; ROHM AND HAAS COMPANY ; ROHM AND HAAS COMPANYUS ; SHAH SHAILESH SHANTILAL ; WEINSTEIN BARRY**Inventor(s):** (std): WEINSTEIN BARRY ; SHIYAIRITSUSHIYU SHIYANTEIRARU ; SHAH SHAILESH SHANTILAL ; BARLEY VINESTEIN**Inventor(s):** SHIYAIRITSUSHIYU SHIYANTEIRARU SHAH ; BARRY WEINSTEIN ; SHAILESH SHANTILAL SHAH**Agent(s):** DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; GOWLING LAFLEUR HENDERSON LLP; SENDA PATENT BUREAU**Designated states:** AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE**14) Family number: 60956947 (US2017066958A)**

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Title: THERMALLY STABLE POLYMERIC SCALE INHIBITOR COMPOSITIONS

Abstract: The present invention relates to a thermally stable polymeric scale inhibitor compositions having a pH of from 5 to 10, and use thereof. Preferably, the polymeric scale inhibitor is a polycarboxylic acid (co)polymer not containing a sulfuric acid group and/or sulfonate group. The polymeric scale inhibitor compositions of the present invention are particularly suitable for high pressure/high temperature scale inhibition treatment of oil and gas production wells and/or subterranean formations.

Classifications:**International (IPC 8-9):** C09K8/528 E21B37/06 (Advanced/Invention);
C09K8/528 (Core/Invention)**CPC:** E21B37/06 C09K8/528**US:** 166/304**Family:**

Publication number	Publication date	Application number	Application date
AR100644 AA	20161019	AR2015P101682	20150528
AU2015267365 AA	20170105	AU20150267365	20150521
BR112016027004 A2	20170815	BR20161127004	20150521
CA2949258 AA	20161115	CA20152949258	20150521
CN106459741 A	20170222	CN201580025622	20150521
CO20160005099 A2	20170310	CO20160005099	20161209
DE602015015577 D1	20180927	DE201560015577T	20150521
EA201692396 A1	20170428	EA20160092396	20150521
EP3149102 A1	20170405	EP20150726844	20150521
EP3149102 B1	20180829	EP20150726844	20150521
ID201712272 A	20171110	ID2016P0008890	20150521
IN201617043043 A	20170331	IN201617043043	20161216
MX2016014975 A1	20170327	MX20160014975	20150521
TH177290 A	20180628	TH20161006842	20150521
US2017066958 AA	20170309	US20150303589	20150521
WO15183675 A1	20151203	WO2015US31886	20150521

Priority:

US20140004465P 20140529 EP20150726844 20150521 WO2015US31886 20150521
US20150303589 20150521

Probable Assignee: DOW GLOBAL TECHNOLOGIES LLC**Assignee(s):** (std): DOW GLOBAL TECH LLC ; DOW GLOBAL TECHNOLOGIES LLC**Assignee(s):** DOW GLOBAL TECHNOLOGIES LLC MIDLAND ; PADILLA ACEVEDO ANGELA I**Inventor(s):** (std): ANGELA I PADILLA ACEVEDO ; PADILLA ACEVEDO ANGELA I**Inventor(s):** PADILLA ACEVEDO ANGELA I FREEPORT**Agent(s):** MADDEN PATENT AND TRADE MARK ATTORNEYS; PHILLIPS ORMONDE FITZPATRICK; SMART AND BIGGAR; ANDRES RINCON USCATEGUI; THOM RUSSELL; MURGITROYD AND CO; ADOLF MARTUA PANGGABEAN MAROLITA SETIATI; CHRISTY M ROBERT**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW**15) Family number: 1265987 (US4029577A)**

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Title: Polymers for use in water treatment

Abstract: The present invention relates to processes for controlling the formation and deposition of scale and/or suspended solid matter which otherwise would occur in aqueous mediums containing scale imparting ions and dispersed particles. The invention, more particularly, relates to the control of the formation of, the reduction and/or the prevention of the deposition of calcium phosphate, magnesium silicate and/or iron oxide, clay and mixtures thereof in cooling water, scrubber and steam generating systems, evaporators, economisers and the like by the introduction of an effective amount for the purpose of a water soluble polymer composed primarily of moieties derived from acrylic acid or water soluble salt thereof and hydroxy lower alkyl acrylate

moieties or water soluble salt thereof to the water used therein. The polymers discovered to be effective for the purpose are those preferably having a mole ratio of from about 34: 1 to about 1: 4 of acrylic acid to hydroxylated lower alkyl acrylate moieties. The lower alkyl is an alkyl of from 2 to 6 carbon atoms.

Classifications:

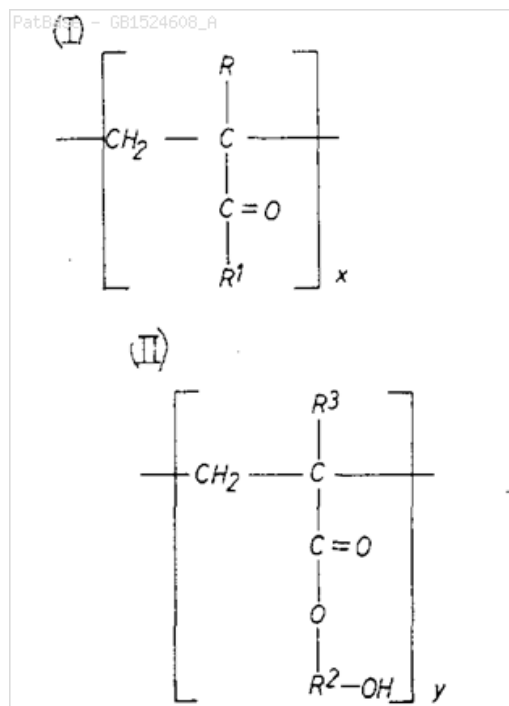
International (IPC 8-9): C02F5/10 C11D7/22 (Advanced/Invention);
C02F5/10 (Core/Invention)

International (IPC 1-7): C02B5/06 C02F5/10 C08F220/06 C08F220/20
C08L C11D7/22 C23F

CPC: C02F5/10

European: C02F5/10

US: 210/58 210/701 252/180



Family:

Publication number	Publication date	Application number	Application date
BE847963 A	19770301	BE19760172058	19761104
CA1079604 A1	19800617	CA19760253716	19760531
FR2331520 A1	19770610	FR19760033838	19761110
FR2331520 B3	19790727	FR19760033838	19761110
GB1524608 A	19780913	GB19760047612	19761116
HK39781 A	19810814	HK19810000397	19810806
IT1061572 A	19830430	IT19760049644	19760525
NL171885 B	19830103	NL19760005282	19760518
NL171885 C	19830601	NL19760005282	19760518
NL7605282 A	19770520	NL19760005282	19760518
US4029577 A	19770614	US19750632549	19751117

Priority:

US19750632549 19751117

Probable Assignee: BETZ LABORATORIES

Assignee(s): (std): BETZ INT ; BETZ LABORATORIES ; BETZ EUROP INC

Assignee(s): BETZ EUROPE INC TE TREVOSE PENNSYLVANIE VER ST V AM ; BETZ LABORATORIES INC ; BETZ LABORATORIES LTD ; LIBUTTI BRUCE L ; SCHUCK JOSEPH J ; GODLEWSKI IRENE T ; BETZ INT INC ; BETZ INTERNATIONAL INC ; BETZ INTERNATIONAL INC TE TREVOSE PENNSYLVANIE VER ST V AM

Inventor(s): (std): GODLEWSKI I T ; GODLEWSKI IRENE T ; LIBUTTI B L ; LIBUTTI BRUCE L ; SCHUCK J J ; SCHUCK JOSEPH J

Inventor(s): IRENE T GODLEWSKI JOSEPH J SCHUCK ET BRUCE L LIBUT ; I T GODLEWSKI ; IRENE T GODLEWSKI JOSEPH J SCHUCK ET BRUCE L LIBUTTI ; IT GODLEWSKI ; J J SCHUCK ; JJ SCHUCK ; B L LIBUTTI ; BL LIBUTTI