7. The method of claim 3, further comprising adding a second brine solution to the electrolyzer cell to form the regenerated hypochlorite stream for use in the treatment solution.

8. The method of claim 1, wherein the crude oil feed is contacted with a treatment solution comprising sodium hypochlorite having a concentration ranging from 1 to 15 wt. %, and

~~9. The method of claim 1,~~ wherein the treated crude oil is contacted with a caustic solution comprising sodium hydroxide having a concentration of sodium hydroxide ranging from 0.001 N to 10N.

~~10~~9. The method of claim 1, wherein the crude oil feed is contacted with the treatment solution in a contact zone comprising at least one of a packed tower, a bubble tray column, a stirred mixing tank, a fiber contactor, and a rotating disc contactor.

~~11~~10. The method of claim 1, wherein the crude oil feed is contacted with a treatment solution comprising a regenerated hypochlorite stream obtained from a hypochlorite regeneration unit.

~~12. The method of claim 1, wherein the crude oil feed is contacted with a treatment solution comprising a regenerated hypochlorite stream obtained from a hypochlorite regeneration unit.~~

~~13. The method of claim 1, wherein the crude oil feed is contacted with the treatment solution in a contact zone comprising fibers and wherein the contact of the crude oil feed with the treatment solution forms an admixture that flows over and along the fibers.~~

~~14. The method of claim 1, wherein the treated crude oil is recovered in a separation zone comprising fibers, and wherein the spent treatment solution and the treated crude oil form an admixture that flows over and along the fibers to form two liquid layers, a lower layer comprising the spent treatment solution and an upper layer comprising the treated crude oil.~~

~~15. The method of claim 1, wherein the treated crude oil is contacted with the alkaline solution in a contact zone comprising fibers and wherein the contact of the treated crude oil feed with the alkaline solution forms an admixture that flows over and along the fibers.~~

~~16. The method of claim 1, wherein the upgraded crude oil is recovered in a separation zone comprising fibers, and wherein the spent alkaline solution and the upgraded crude oil form an admixture that flows over and along the fibers to form two liquid layers, a lower layer comprising the spent alkaline solution and an upper layer comprising the upgraded crude oil.~~

~~17~~11. A method for treating a crude oil containing mercaptans, comprising:

combining a sodium hypochlorite solution with a least a base to form a treatment solution having a pre-select pH;

contacting a crude oil feed with the treatment solution comprising the sodium hypochlorite at a pre-select pH under intimate contact conditions sufficient for the hypochlorite to oxidize the mercaptans generating a treated crude oil having a reduced concentration of mercaptans of less than 50 ppm and a first concentration of chloride and a spent treatment solution;

separating the spent treatment solution and the treated crude oil to recover the spent treatment solution and the treated crude oil as separate streams;

contacting the treated crude oil stream with a caustic solution under mixing conditions sufficient to generate a spent alkaline solution and an upgraded crude oil having less than 50 pp, mercaptan and less than 10 ppm organic chloride;

separating the spent alkaline solution and the upgraded crude oil;

treating the spent treatment solution to generate a brine solution comprising at least 99 wt. % as sodium chloride in solution;

regenerating the brine solution to form a hypochlorite stream for use in the treatment solution.

~~18~~12. The method of claim ~~17~~11, wherein the crude oil and ~~with~~ the treatment solution are intimately contacted by a contacting method selected from non-dispersive and dispersive contacting methods.

~~19~~13. The method of claim ~~18~~12, wherein the non-dispersive contacting method is selected from packed inert particle beds and fiber film contactors.

~~20~~14. The method of claim ~~17~~11, wherein the treated crude oil stream and the caustic solution are intimately contacted by a contacting method selected from non-dispersive and dispersive contacting methods.