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(21) International Application Number: PCT/US96/02935 (22) International Filing Date: 23 February 1996 (23.02.96) (30) Priority Data: 08/393,664 ✓ 24 February 1995 (24.02.95) US (71) Applicant: MDECHEM, INC. [US/US]; 2102 Morgan, Houston, TX 77006 (US). (72) Inventors: McCOY, Charles, R.; 3208 Windsor, Pearland, TX 77580 (US). DeFALCO, Frank, G.; 2102 Morgan, Houston, TX 77006 (US). (74) Agent: CRYSTAL, John, J.; Ladas & Parry, 224 S. Michigan Avenue, Chicago, IL 60604 (US).	(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>	

(54) Title: METHOD OF PREPARING IRON-PHOSPHATE CONVERSION SURFACES**(57) Abstract**

The present invention provides for forming an iron-phosphate conversion surface, or an iron/phosphate bi-metallic surface on metals, in situ, in motors of mechanical equipment, using the lubricating oil as the medium for bringing the phosphate and/or phosphate bi-metallic inorganic polymeric water complexes into contact with all the metal parts in the motors. The inorganic polymeric water complexes are formed in accordance with U.S. Patents 4,533,606 and 5,310,419. The bi-metallic component can be any metal from Class I through Class VIII of the Periodic table. The phosphate and/or phosphate bi-metallic inorganic polymeric water complexes are added to the lubricating oil while the engine is running and the oil is hot. The iron/phosphate film or iron/phosphate/bi-metallic film that is formed reduces coefficient of friction, reduces metal wear, extends engine life, increases mileage, reduces hydrocarbon emissions, and extends oil drainage intervals on all lubricated motors.