

ENGINEERING MATERIAL SPECIFICATION

Material Name	Specification Number
PHOSPHATE SOLUTION, ZINC, ALKALINE PRECLEANER TRIETHANOLAMINE BASED CLEANER	WSS-M5B410-A1
PHOSPHATE SOLUTION, ZINC, ALKALINE PRECLEANER FATTY PHOSPHORIC ACID CORROSION PROTECTIVE ADDITIVE	WSS-M5B410-A2
PHOSPHATE SOLUTION, ZINC, ALKALINE PRECELEANER BIODEGRADABLE SURFACTANT ADDITIVE	WSS-M5B410-A3
PHOSPHATE SOLUTION, ZINC, ALKALINE PRECLEANER BIODEGRADABLE WETABILITY ADDITIVE	WSS-M5B410-A4

1. SCOPE

The materials defined by these specifications are the boron and nitrite free component chemicals of an alkaline precleaner system.

2. APPLICATION

This specification was released originally to define the performance of precleaner chemicals used just prior to full body tricationic zinc phosphating to prevent corrosion during the summer months when the humidity is high.

3. REQUIREMENTS

3.1 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.2 pH VALUE ASTM E 70 (10 g/L)	A1 8.9 +/- 0.5	A2 7.7 +/-0.5
3.3 DENSITY (ASTM D 1475 Kg/L)	A1 1.055+/- 0.03	A2 1.150+/- 0.03
	A3 1.010+/-0.03	A4 0.990+/-0.03

Date	Action	Revisions
2002 08 28	Revised	Updated and renumbered
1999 08 16	Activated	P. Osman

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3.4	TITRATION (TOTAL ALKALINITY)	A1	A2
		24.0 +/- 4.0 mL	15.0 +/- 4.0 mL

Titrate 100ml of 10 g/L solution with 0.05M sulphuric acid until color changes from blue to yellow-green with Bromocresol Green.

3.5	ACTIVE MATERIAL	A3	A4
		50.0 +/- 4.0 %	23.2 +/- 2.0 %

3.6 CORROSION PROTECTION PROPERTY

The film remaining on the parts after treatment with 20 g/L WSS-M5B410-A1 shall protect the surface from corrosion for a minimum of 72 hours when stored in closed spaces under normal atmospheric conditions.

3.7 CLEANING EFFICIENCY

During spray processing, the material (approx. 20 g/L WSS-M5B410-A1) shall remove grease residues and metal dust from the bodies in white. The substrate will not be attacked by the cleaner (including zinc coated steel).

3.8 RINSING EFFICIENCY

The dried film shall be easily removable with water from the washed parts without leaving residues.

3.9 PASSIVATION EFFECTIVENESS

The material shall have no deleterious effect on the subsequent phosphating process.