



T PHOS 53

INTRODUCTION

An easy-to-use liquid blend of resin and phosphating base in solvent. It gives a thin, protective coating on iron and steel to which most paints and powder coatings adhere well. It is supplied ready for use by dip or spray-gun; brushing, rolling and wiping techniques can also be used. Under paint, T Phos 53 Clear has similar properties to a lightweight zinc phosphate coating and has been approved by many authorities as an equivalent treatment where orthodox phosphating is impracticable.

BENEFITS

- Simple process – no heating; no rinsing; no effluent.
- Improves the adhesion of most industrial paints and powder coatings.
- When painted, corrosion resistance on iron and steel is markedly improved.
- Prevents rusting before painting when stored in reasonable conditions.
- Is stable in a dip tank and has no pot-life by spray.
- Economic – only a dry thin film of about 2 microns is required.
- Can also be used on zinc, aluminium and brass.
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FLASHPOINT

Tested to BS 3900 Part A8. The flashpoints of T Phos 53 Clear, Thinner (MP0010) and T Phos Tinter Green are all in the range 21°C – 32°C.

COVERAGE

The rate of consumption will depend on overspray or draining efficiency. As a guide the following ranges have proved reliable:

Spray-gun:	10 – 15 m ² /kilo of T Phos 53
Clear Dip:	15 – 25 m ² /kilo of T Phos 53 Clear

APPLICATION

Normally, the process sequence is: 1. Degrease, if necessary by:



- a) Solvent wiping with T Cleaner 2 (MP0113) or T Wipes 2 (MP0302) or,
- b) Solvent vapour degreasing with Triklone 'N' (MP0301).

2. Apply T Phos 53 Clear either by:

- a) Dip at room temperature and immediately drain, jigging the work to avoid trapping and secondary runs. or,
- b) Spray a thin coat of T Phos 53 Clear as supplied, or, to impart a light green colouration to the phosphated work, 0.5kg T Phos Tinter Green (MP0031) can be added to 20kg T Phos 53 Clear. This can assist application and subsequent inspection (see NOTE (iii) below).

NOTES:

- (i) Aqueous cleaning and rinsing can be used but normally only for non-ferrous metals, in which case a cold water rinse should follow the cleaning prior to drying off. Separate degreasing may not be necessary for very lightly oiled work before dipping T Phos 53 Clear, although eventually the bath may become unacceptably contaminated.
- (ii) T Phos 53 Clear will neutralise light rust but heavy rust or scale must first be removed. T Deruster 4 (MP0054) is normally effective as a chemical treatment. (iii) When treating aluminium and zinc surfaces by either spray or dip, for best paint performance dilute T Phos 53 Clear with up to 30% Thinner (MP0010).

CONTROL POINTS

Bath Temperature °C	Ambient
Specific Gravity (SG)	0.912 @ 10°C 0.902 @ 20°C
Immersion Time	No dwell time required, avoid air traps
Film Thickness microns	1.5 – 2.5

BATH CONTROL/REPLENISHMENT

The bath is simply controlled by a specific gravity (SG) determination. Immerse a 0.900 – 0.950 hydrometer in the bath and, at the same time, measure the bath temperature. At the measured bath temperature, if the SG is higher than the figures given above, add Thinner (MP0010) and stir until the hydrometer reads correctly for that temperature. Now bring the bath to its required level with T Phos 53 Clear



DRYING

Spraying: A thin T Phos 53 Clear coating will normally dry at ambient temperatures sufficiently in 3 – 5 minutes for subsequent paint and powder application.

Dipping: Work must be drained at the best angle to avoid secondary runs and until all dripping has ceased. Paint or powder can usually be applied after a further 10 – 30 minutes depending on the ambient temperature, although force drying for, say, 3 minutes at 90 – 110°C may help in avoiding run marks or drain points.

NOTE: After drying, work may be left up to several months before painting, providing it is stored away from humid conditions.

EQUIPMENT

Spraying: All equipment should be acid and solvent resistant. Work must not be sprayed outside a properly exhausted spray booth.

Dipping: An acid and solvent-resistant tank such as stainless steel is required, with a drain area back to the tank. The area must have good ventilation but not be subject to excessive draughts. High tank sides and a lid will reduce solvent losses.

Brushing: Small quantities of T Phos 53 Clear may be decanted into an acid resistant plastic beaker for small area work. Uncontaminated surplus product should be returned to the original container after each work period.

Guidance on suppliers of processing equipment may be obtained from our Sales Offices.

ENVIRONMENTAL CONSIDERATIONS

T Phos 53 Clear is a mildly acidic liquid containing VOCs. The contents are: T Phos 53 Clear – 900 gm/kg; Thinner (MP0010) – 860 gm/litre; T Phos Tinter Green – 647 gm/kg. The details in the main Guidance Notes to the Environmental Protection Act are relevant. Exemption through low film build PG6/23 (Metal and Plastic); as special products PG6/34 (Vehicle Refinishing) and small VOC usage PG6/31 (Powder Coating) can be achieved for many installations. Overspray in a properly constructed booth should be treated in the same manner as traditional paint residues. T Phos 53 Clear in contaminated dip tanks, needing to be discarded, should be removed by a contractor experienced in the disposal of contaminated solvents.

SAFETY

Before use, refer to the Product Safety Data Sheet.



DISPOSAL

Dispose of in accordance with local authority requirements.

PRODUCT FAMILIES

The following products are referred to in this data sheet.

PRODUCT NAME	PRODUCT NUMBER
T PHOS 53	MP0007-25
TRIKLONE N	MP0301
T CLEANER 2	MP0113
T WIPES 2	MP0302
T PHOS TINTER GREEN	MP0031
T DERUSTER 4	MP0054
THINNER	MP0010

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