



Painting and
Corrosion Protection
for
Park Homes
and
Caravan Chassis

In Accordance with the
National Caravan Council

Code of Practice 501 - 2007



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1. SCOPE

This specification defines the minimum requirements for the selection, application, inspection and testing for coatings used to protect chassis to meet the **NCC Code of Practice 501 2007**.

1.1 National Caravan Council Minimum Requirement

Duration	:	Medium (M) 5 to 15 Years
Corrosivity Category	:	C3 Medium (park homes) C4 High (caravans)

2. REFERENCES

2.1 Codes and Standards

Painting and corrosion protection shall be in accordance with the current edition of the following codes and standards.

- 2.1.1 International Standard ISO 12944
Paint and Varnish - Corrosion protection of steel structures by protective paint systems
- 2.1.2 BS3900 : F4 1991

3. LEIGHS PRODUCT PERFORMANCE

3.1 Environment and Durability

ISO12944 Durability	:	Medium (M) 5 to 15 years
Corrosivity Category:	:	C4 Exterior of industrial and coastal areas

3.2 Performance Data (to date)

Substrate	-	Degreased cold rolled steel
System	-	Metafast M373V2 Sheen Protective Finish - 100 microns
Exposure	-	8 years Industrial and Marine Environments Excellent condition
		1000 hours Salt Spray (BS3900 : F4 1991) Excellent condition
		1000 hours QUVa Good condition

3.3 Viewing Panels

The panels are exposed at two sites, one coastal and industrial. Viewing can be done at either of the sites or the panels can be removed for viewing. Evaluation of performance will be made annually and the data adjusted according

3.4 Scientifics Independent Verification



Colin Ball
Engineering Market Manager
Leighs Paints
Tower Works
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Materials Group
500 London Road
Derby
DE24 8BQ*

*Tel: 01332 268442
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O/r: COA/02003/MA

17th December 2004

Dear Colin,

Independent Verification Regarding the Performance of Leighs Paints M155 & M373V2 Coatings in Accordance with the Requirements of ISO 12944-6.

With reference to your recent request regarding the above, please find my comments as follows.

I can confirm that I have examined your supplied M155 & M373V2 coated steel test panels, performance data documentation & supporting test records.

From the supplied information, it would appear that M155 & M373V2 coatings satisfy the requirements of **ISO 12944-6, medium term durability, (5-15 years) in a C4 environment.** Each coating had been applied to the abraded and degreased test panels at a nominal dry film thickness of 100µm, in accordance with the 'Chassis Painting' specification requirements.

The testing previously performed (by Leighs) on the supplied panels included the following:

Salt spray exposure, (for up to 1000 hours) ultra violet light exposure, (for up to 1000 hours) humidity exposure, (for up to 1000 hours) & out door natural weathering, (including marine environments) for up to 8 years exposure.

The references supplied for the test panels & accompanying documentation included: L0083 & 4, L1793, L1784, L4980, L4987, L8379, L8679, L8684, L9433 & 4.

If I can be of further assistance on this or any other coatings related matter, please do not hesitate to contact me

Yours sincerely

Malcolm Astle
Team Leader, Coatings
malcolm.astle@scientifics.com

4. QUALITY AND TRAINING

The applicator shall develop painting and corrosion protection procedures to meet the standard prior to starting any work.

4.1 Inspection and Quality Control

The applicator shall ensure the standard is achieved by having and maintaining quality checks at all stages of production.

4.2 Training

All operatives involved with the application and inspection of the paint system have undertaken extensive training. This training covers all aspects including Health & Safety, Paint Procedures, Application Techniques, Quality and Inspection.

Each operative will receive certification that the required standards have been achieved. On the job training will also take place to ensure skills and knowledge is expanded.

5. SURFACE PREPARATION

The steel is to be free from oil, grease, water and other contaminants.

6. COATING APPLICATION

6.1 General

Paint application to be in accordance with the technical data sheet.

6.2 Specification

Chassis Painting

EPA - 1998 Compliant

<i>ISO Standard</i>	12944
<i>Durability</i>	Medium (M) 5 to 15 years
<i>Corrosivity Category</i>	C4 Exterior industrial and coastal

SPECIFICATION:

Surface Preparation: Ensure surfaces to be coated are free from all visible traces of surface contamination

	<i>Material</i>	<i>d.f.t. microns</i>	<i>Applied</i>
Primer/Finish	METAFast M373V2 Sheen Protective Finish	100	In Shop

Notes on this Specification:

Addresses the principles of CDM and COSHH regulations.

Dry film thickness (d.f.t.) quoted are NOMINAL as defined in BS5493

The same material is used for touch up following suitable cleaning and re-preparation of affected areas.

All materials should be obtained from Leighs and must be applied in accordance with our technical data sheets.

Mar 04

6.3 Drying

The coating rapid dries under ideal condition factors such as temperature, air movement and coating thickness will affect the speed of dry. The coating in the drying stage is to be protected from all contamination.

6.4 Mechanical Damage

Damaged areas can be protected by the same material. The affected area needs to be prepared, removing any damaged base paint and the whole areas cleaned. Paint can be applied by brush ensuring the recommended thickness has been achieved.

7. WARRANTY

Leigh's Paints are satisfied that the specification in this document will meet the performance requirements as detailed in ISO 12944.

All our products are manufactured in strict accordance with our BSI EN ISO9001:2000 Accreditation and is subjected to extensive and exhaustive testing regimes.

Leigh's Paints will as part of the applicators Quality Control Procedure make regular visits during application to monitor the surface preparation and application standards

The performance of our coating systems relies on the applicators of the products ensuring that the correct methods of preparation and application parameters are adhered to ; as detailed in this specification and on the relevant product technical data sheet.

Yours faithfully
for Leigh's Paints

Roger Williams
Commercial Director

8. OPERATIONAL AND QUALITY PROCEDURE

Sprayshop Standard Operating Procedures

- Inspection of Chassis prior to painting to be clean and free from any contamination, excessive rust to be wire brushed, Grease/Oil or any other contaminant to be removed by using a solvent wipe. Any preparation carried out should be recorded on a QF14 sheet to meet with N.C.C. and I.S.O. Requirements.
- Prior to painting the following should be checked. Air pressure should be set at 80 p.s.i. The pressure from the pump should be set at 2400 p.s.i. Check the tips are 311 or a 313 and the gun is set correctly. Tips should be changed on a regular basis.
- When starting up the sprayshop burners and extractors check the temperatures reach:-
 1. Sprayshop Temperature 12° Celsius
 2. Drying area Temperature 16° Celsius
 3. The paint heater to be set at 10° Celsius in Summer and 20° Celsius in Winter.
- Check all lights in sprayshop; report any not working to the Chassis Manager.
- Check the airflow hoods are working correctly.
- After spraying, move the Chassis to the drying area where final inspection takes place, fit wheels, and touch up any areas left unsprayed, Hoist marks etc.
- After plating and final inspection the paint batch number and the chassis batch number should be recorded on the QF21 sheet to meet with N.C.C. and I.S.O. Requirements.
- Readings of the dry film thickness are to be checked daily, and to be checked fortnightly for auditing purposes by Leigh's Paints, this should measure 100 microns in thickness + or – 20 microns

Issue: 1

Date: 28th July 2006



Bankside Patterson Technical Service Record



Date:		Contact:	
Completed By:			

Material Batch No	Tip Size	Pump Pressure	Heater Setting

QF14		QF21	
------	--	------	--

Chassis Batch No	Date Painted	Number of Readings	Minimum	Maximum	Average

Comments:

Signature:	
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This record is provided free of charge but is subject to the Service Record Terms and Conditions shown below

Service Record Terms and Conditions

The information in this Service Record is provided on the express understanding that it is without any liability on the part of W. & J. Leigh & Co. Site visits and completion of Customer Service Record forms undertaken by W. & J Leighs & Co do not amount to the following :- No1 - A quality control service. No2 - Technical Supervision of surface preparation or paint application. No3 - Express or implied acceptance of work done in the course of or completion which may be of the application of paint. No4 - Express or implied acceptance that work has been carried out in accordance with the specification, W. & J. Leigh & Co. recommendations, British or any other contractual standards applicable to the work.

The matters referred to in 1, 2, 3 & 4 are the responsibility of the contractor/ sub-contractor and/ or the specifier, who are advised to take appropriate steps to ensure that these matters are properly addressed.



Contact Details

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website: www.bankside-patterson.com



CERTIFICATE OF REGISTRATION

Quality Management System

Leigh's Paints

**Tower Works
Kestor Street
Bolton
Lancashire
BL2 2AL
United Kingdom**

*Operate a Quality Management System
which complies with the requirements of
BS EN ISO 9001:2000
for the activities detailed in the scope of
registration.*

Certificate No: **FM 00828**

Signed on behalf of BSI

Originally registered: **1 Sep 1986**



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MGMT. SYS.
RVA C 030

*This is not a legal document and cannot be used as such. This certificate does not expire.
To check its validity telephone +44 (0)20 8996 9001 or visit www.bsi-global.com/ClientDirectory
Further clarifications regarding the scope of this certificate and the applicability of ISO 9001:2000 requirements may be
obtained by consulting the organization. The British Standards Institution is incorporated by Royal Charter.
Group Headquarters: 389 Chiswick High Road, London W4 4AL, UK.*





CERTIFICATE OF REGISTRATION

Quality Management System

This is to certify that:

**Leigh's Paints
Tower Works
Kestor Street
Bolton
Lancashire
BL2 2AL
United Kingdom**

Hold Certificate No: **FM 00828**

and operate a Quality Management System which complies with the requirements of **BS EN ISO 9001:2000**
for the following scope:

The design, development, manufacture and supply of proprietary and high performance protective decorative and fire protection surface coatings and insulants.

The supply of products which are designed to meet the requirements of a number of specialised markets including, but not limited to construction steelwork, engineering and production line marine, oil, gas and chemicals, fire protection, transport infrastructure and buildings, floors, decking and road markings.

The provision of the service of technical support on and off site with specialisation in the above markets.

For and on behalf of BSI:

Certification Manager, Systems Assessment

Originally registered: **1 Sep 1986**

Latest issue: **28 Jul 2004**

Page: 1 of 1



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*This certificate remains the property of BSI and shall be returned immediately upon request.
This certificate does not expire. To check its validity telephone: +44 (0)20 8996 9001 or visit
www.bsi-global.com/ClientDirectory. Further clarifications regarding the scope of this certificate
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*The British Standards Institution is incorporated by Royal Charter.
Group Headquarters: 389 Chiswick High Road, London W4 4AL, UK.*





METAFAST M373V2

PRODUCT TECHNICAL DATA

FULL DESCRIPTION	: METAFAST M373V2 SHEEN PROTECTIVE FINISH		
MATERIAL TYPE	: Quick drying alkyd anticorrosive protective finish pigmented with zinc phosphate.		
RECOMMENDED USE	: One coat protection of steel structures and containers, where speed of drying is important.		
ENDORSEMENTS	: 1998 COMPLIANT - 1990 EPA-PG6/23(97) Clause 20(d) - Industrial - when used as a protective finish. : 1998 COMPLIANT - 1990 EPA-PG6/23(97) Clause 20(e) - Marine		
RECOMMENDED APPLICATION METHODS	: Airless spray : Brush (for small areas and touch up only)		
COLOUR AVAILABILITY	: Limited range		
FLASH POINT	: 7°C		
% SOLIDS BY VOLUME	: 51 ± 2% (ASTM-D2697-91)		
V.O.C.	: 416* grammes/litre * 1990 EPA - PG6/23 (97) Modified Appendix 3.		
TYPICAL THICKNESS	Dry film thickness : 75 microns	Wet film thickness : 150 microns	Theoretical coverage : 7 m ² /ltr*
	* This figure makes no allowance for surface profile, uneven application, overspray or losses in containers and equipment. Film thickness will vary depending on actual use and specification.		
PRACTICAL APPLICATION RATES- microns per coat	Airless Spray	Brush	
	: Dry 75*	: 40	
	: Wet 150	: 81	
	* Maximum sag tolerance with overlap typically 150µ dry by airless spray.		
AVERAGE DRYING TIMES	At 15°C	At 23°C	
To touch	: 1 hour	: 30 minutes	
To recoat	: 3 hours	: 1½ hours	
To handle	: 10 hours	: 6 hours	
	These figures are given as a guide only. Factors such as air movement and humidity must also be considered.		
RECOMMENDED THINNER	: Leigh's Cleanser/Thinner No. 2		
RESISTANCE TO	Moisture - Good Aliphatic solvents - Moderate	Abrasion - Moderate Weather - Good	
RECOMMENDED TOPCOATS	: Overcoatable with a wide range of materials including alkyd, chlorinated rubber and vinyl systems. For overcoating times refer to paragraph ' Application Conditions and Overcoating' overleaf.		
PACKAGE	: Single component material.		
	Pack Size	: 20 litre and 5 litre units.	
	Weight	: 1.273 kg/litre (may vary with shade).	
	Shelf Life	: 2 years from date of batch manufacture.	

SURFACE PREPARATION:

Blast clean to Sa.2½ BS7079:Part A1:1989 (ISO 8501-1:1988). Average surface profile in the range 30-75 microns.
Manually prepared surfaces should be prepared to a minimum standard of St.3 BS7079:Part A1:1989 at the time of coating.
Ensure surfaces to be coated are clean, dry and free from all surface contamination.

APPLICATION EQUIPMENT:**Airless Spray**

Nozzle Size : 0.33 - 0.38mm (15 thou)
Fan Angle : 20 - 60° depending on configuration of item being sprayed
Operating Pressure : 140kg/cm² (2000 psi)

The airless spray details given above are intended as a guide only. Details such as fluid hose length and diameter, paint temperature and job shape and size all have an effect on the spray tip and operating pressure chosen. However, the operating pressure should be the lowest possible consistent with satisfactory atomisation. As conditions will vary from job to job, it is the applicators' responsibility to ensure that the equipment in use has been set up to give the best results. If in doubt Leigh's Customer Service Department should be consulted.

Brush

The material is suitable for brush application to small areas and for touch up purposes. To achieve normal dry film thicknesses by brush more than one coat will be necessary.

APPLICATION CONDITIONS AND OVERCOATING:

In conditions of high relative humidity, i.e. 80-85% good ventilation conditions are essential. Substrate temperature should be at least 3°C above the dew point and always above 0°C.

Application at ambient air temperatures below 5°C is not recommended.

For full notes, see data sheet entitled 'Spreading Rates and Overcoating Times'.

ADDITIONAL NOTES:

Drying times should be considered as a guide only.

Numerical values quoted for physical data may vary slightly from batch to batch.

HEALTH AND SAFETY:

Consult Product Health and Safety Data Sheet for information on safe handling and application of this product.

Any person or company using the product without first making further enquiries as to the suitability of the product for the intended purpose does so at their own risk, and Leigh's Paints can accept no liability for the performance of the product, or for any loss or damage arising out of such use.

The information detailed in this Data Sheet is liable to modification from time to time in the light of experience and of normal product development, and before using, customers are advised to check with Leigh's Paints, quoting the reference number, to ensure that they possess the latest issue.



Metafast M373V2

PRODUCT HEALTH AND SAFETY DATA

Product Reference : Metafast M373V2
Date of Issue : 26/01/06

Issue : 2 REVISION
Page : 1 of 10

1. IDENTIFICATION OF PREPARATION AND OF COMPANY

Full name Metafast M373V2 Sheen Protective Finish

Manufacturer Leighs Paints, Tower Works,
Kestor Street,
Bolton,
United Kingdom
BL2 2AL

Telephone: +44 (0)1204 521771

Fax: +44 (0)1204 382115

Email: she@leighspaints.co.uk

Website: www.leighspaints.co.uk

Description A sheen protective finish for application by spray, brush or roller. Based on an alkyd resin system with zinc phosphate and other inorganic and/or organic pigments and containing xylene and butanone solvents.

Also, the following colours usually contain lead chromate pigment. In some cases lead free versions are also available, please consult the container label and/or Leighs Customer Service Department for further details.

Poppy Red - R5522

Red - R5430

RAL 1003 - Signal Yellow

Yellow - R5429

RAL 2004 - Pure Orange

2. COMPOSITION/INFORMATION ON INGREDIENTS

The following ingredients have recognised health effects or exposure limits, and are present in concentrations above the limits laid down in the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 and amendments (CHIP 3.1).

Substance	Weight in Paint	Classification	Risk Phrases*	EINECS Number
For all colours except those listed in Section 1 as containing lead chromate:				
Xylene (mixture of isomers)	10-25%	Xi Xn	R38 R20/21	215-535-7
Butanone	2.5-10%	Xi	R66 R67 R36	201-159-0
trizinc bis(orthophosphate)	2.5-10%	N	R53 R50	231-944-3
n-butyl acetate	2.5-10%		R66 R67	204-658-1
Fatty acids, C6-19 branched, calcium salts	2.5-10%	Xi	R38	270-064-4
Naphtha (petroleum), hydrotreated heavy	<2.5%	Xn	R65	265-150-3

For colours listed in Section 1 as containing lead chromate:				
Xylene (mixture of isomers)	10-25%	Xi Xn	R38 R20/21	215-535-7
Lead Chromates	>1%	Carc. Cat. 3 N Repr. Cat. 1 Repr. Cat. 3	R33 R53 R40 R50 R61 R62	231-846-0
Butanone	2.5-10%	Xi	R66 R67 R36	201-159-0
trizinc bis(orthophosphate)	2.5-10%	N	R53 R50	231-944-3
n-butyl acetate	2.5-10%		R66 R67	204-658-1
Fatty acids, C6-19 branched, calcium salts	2.5-10%	Xi	R38	270-064-4
Naphtha (petroleum), hydrotreated heavy	<2.5%	Xn	R65	265-150-3

*For full details of R-phrases, see Section 16.

3. HAZARDS IDENTIFICATION

For all colours except those listed in Section 1 as containing lead chromate:

F	R11	Highly flammable.
Xn	R20/21	Harmful by inhalation and in contact with skin.
Xi	R38	Irritating to skin.
N	R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

For colours listed in Section 1 as containing lead chromate:

F	R11	Highly flammable.
Xn	R20/21	Harmful by inhalation and in contact with skin.
	R33	Danger of cumulative effects.
Xi	R38	Irritating to skin.
Carc. Cat. 3	R40	Limited evidence of a carcinogenic effect.
N	R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Repr. Cat. 1	R61	May cause harm to the unborn child
Repr. Cat. 3	R62	Possible risk of impaired fertility.

4. FIRST-AID MEASURES

In all cases of doubt, or where symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation Remove to fresh air, keep patient warm and at rest. If breathing has stopped, administer artificial respiration. Give nothing by mouth. If unconscious, place in the recovery position and seek medical advice.

Eye contact Contact lenses should be removed. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart and seek medical advice.

Skin contact Remove contaminated clothing. Wash skin thoroughly with soap and water, or use a proprietary skin cleanser. Do NOT use solvents or thinners.

Ingestion If accidentally swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Use alcohol resistant foam, carbon dioxide, dry powder or water spray/mist. Do NOT use water jet.

Recommendations

Fire will produce dense black smoke containing hazardous products of combustion (see Section 10). Exposure to decomposition products may be a hazard to health. Appropriate self-contained breathing apparatus may be required. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire-fighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

Exclude sources of ignition and ventilate the area. Exclude non-essential personnel. Avoid breathing vapours. Refer to protective measures listed in sections 7 and 8. Contain and collect spillages with non-combustible absorbent materials e.g. sand, earth, vermiculite, diatomaceous earth and place in a suitable container for disposal in accordance with the waste regulations (see Section 13). Do not allow to enter drains or water courses. Clean preferably with a detergent; avoid the use of solvents. If the product enters drains or sewers, the local water company should be contacted immediately; in the case of contamination of streams, rivers or lakes, the relevant environment agency.

7. HANDLING AND STORAGE

Handling

For colours containing lead chromate (listed in Section 1), avoid the inhalation of dusts, particulates and spray mists arising from the use of these products.

Vapours are heavier than air and may spread along floors. They may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid concentrations higher than the workplace exposure limits.

Additionally the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.

Keep the container tightly closed. Exclude sources of heat, sparks and open flame. Non-sparking tools should be used.

Required air quantity to ventilate to 10% of the LEL.	183 m ³ /ltr
---	-------------------------

The above figure is given as a guide only. Ventilation and extraction must be arranged so that all parts of the workplace are properly ventilated i.e. there are no recesses or pockets where high vapour concentrations are allowed to build up.

If there is any doubt about the adequacy of the ventilation/extraction of solvent vapour, regular monitoring of confined workplaces should be carried out.

Avoid skin and eye contact. Avoid inhalation of vapour and spray mist. Smoking, eating and drinking should be prohibited in areas of storage and use.

For personal protection, see Section 8.

Never use pressure to empty; the container is not a pressure vessel.

Always keep in containers made of the same material as the supply container.

The accumulation of contaminated rags and dry overspray, particularly in spray booth filters, may result in spontaneous combustion.

Good housekeeping standards, regular safe removal of waste materials and regular maintenance of spray booth filters will minimise the risks of spontaneous combustion and other fire hazards.

The Manual Handling Regulations may apply to the handling of containers/packages of this product. The following guide weight indicators are given to enable users to carry out assessments.

Package	Weight
5 litre can	7.0 - 7.5 kg
20 litre pail	28.0 - 30.0 kg
200 litre barrel	280 - 300 kg

Storage

The storage and use of this product is subject to the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR). The requirements are given in the HSE Approved Code of Practice and Guidance, Storage of Dangerous Substances: DSEAR.

Up to 50 litres of liquids with a flash point below 32°C may be kept in a workroom provided they are kept in closed containers in a marked, fire-resisting cupboard or bin. Larger quantities must be kept in a separate, marked storeroom conforming to the structural requirements contained in the HSE guidance note Storage of Flammable Liquids in Containers.

Observe the label precautions. Store between 5°C and 25°C in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorised access. Containers which are open should be properly re-sealed and kept upright to prevent leakage.

The principles contained in the HSE guidance note Storage of Packaged Dangerous Substances should be observed when storing this product. Store separately from oxidising agents and strongly alkaline and strongly acidic materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and/or solvent vapours below the relevant workplace exposure limits, suitable respiratory protective equipment should be worn (see 'Personal Protection' below).

Exposure Limits

Workplace Exposure Limits have been established by the Health and Safety Commission or recommended by the supplier for certain of the ingredients. WELs are taken from the current version of EH40 except those marked 'Sup', which are assigned by the supplier of the substance.

Substance	Workplace Exposure Limits		Notes
	8 hr TWA¹	15 min STEL²	
Butan-2-one	200ppm(OES)	300ppm(OES)	Sk ³
Butyl acetate	150ppm(OES)	200ppm(OES)	
Lead Chromates	0.15mg/m ³ (MEL)		
Naphtha (petroleum), hydrogenated heavy	160ppm(OES)		Sup
Xylene (mixture of isomers)	50ppm(OES)	100ppm(OES)	Sk ³
	¹	Long term exposure limit - 8 hour time weighted average.	
	²	Short term exposure limit - 15 minute reference period.	
	³	There is a risk of absorption through unbroken skin.	
	OES	Workplace exposure standard.	
	MEL	Maximum exposure limit.	

Further guidance on WELs and the assessment of workplace exposure to harmful materials, including mixed exposures, is given in HSE Guidance Note EH40.

Personal Protection

All personal protective equipment, including respiratory protective equipment, used to control exposure to hazardous substances must be selected to meet requirements of the COSHH Regulations.

Respiratory Protection Air-fed respiratory protective equipment should be worn when this product is sprayed if the exposure of the sprayer or other people nearby cannot be controlled to below the Workplace Exposure Limits and engineering controls and methods cannot reasonably be improved.

When spraying colours containing lead chromate (listed in Section 1), air-fed respiratory protective equipment must be worn. This should be in addition to other measures taken to reduce exposure (e.g. in booth design and operation, and process modifications). Non-essential personnel and unprotected people should be excluded from the area if exposure is possible.

To avoid the inhalation of dusts, especially for colours containing lead chromate (listed in Section 1), operators should wear air line breathing apparatus when removing dry booth filters or removing or disposing of dry overspray deposits.

Dry-sanding, flame cutting and/or welding of the dry paint film will give rise to dust and/or hazardous fumes. Wet sanding should be used wherever possible. If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used.

Hand Protection When skin exposure may occur, advice should be sought from glove suppliers on appropriate types.

The instructions and information provided by the glove supplier on use, storage, maintenance and replacement must be followed.

Barrier creams may help to protect exposed areas of skin but are not substitutes for full physical protection. They should not be applied once exposure has occurred.

Eye Protection Eye protection designed to protect against liquid splashes should be worn.

Skin Protection Cotton or cotton/synthetic overalls or coveralls are normally suitable. Grossly contaminated clothing should be removed and the skin washed with soap and water or a proprietary skin cleanser.

Regular skin inspection of users of this product is recommended. Always wash your hands before eating, smoking or using the toilet.

Environmental Exposure Controls

See Section 12 for detailed information.

9. PHYSICAL PROPERTIES

Physical State	Viscous liquid
Odour	Characteristic odour
Colour	Various
Density	1.3 g/cm ³
Viscosity	4.0 - 5.0 poise BS3900:Part A7 at 25°C
Flash Point	7°C
Volatile Organic Content	336 g/Kg
Explosion Limit - lower	0.6%
Water Solubility	Immiscible
Boiling Point	79°C

10. STABILITY AND REACTIVITY

Stable under the recommended storage and handling conditions (see Section 7).

In a fire, hazardous decomposition products such as smoke, carbon monoxide, carbon dioxide and oxides of nitrogen may be produced.

Keep away from oxidising agents and strongly alkaline and strongly acidic materials to prevent the possibility of exothermic reaction.

11. TOXICOLOGICAL INFORMATION

There is no data available on the product itself.

Exposure to organic solvent vapours may result in adverse health effects such as irritation of the mucous membrane and the respiratory system and adverse effects on the renal and central nervous systems. Symptoms include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin.

Repeated or prolonged contact with the product may lead to removal of natural fats from the skin resulting in non-allergic contact dermatitis and absorption through the skin. Splashes in the eye may cause irritation and reversible local damage.

Ingestion may result in the following effects: sore throat, abdominal pain, drowsiness, nausea, vomiting and diarrhoea. Other effects may be as described for exposure to vapours.

Contains methyl ethyl ketoxime. May produce an allergic reaction.

Increased incidences of lung cancer have been identified in the chromate manufacturing industry. Epidemiological studies have shown that where lead chromates alone were manufactured, there were no cancer excesses.

Animal studies have shown that some insoluble chromates are carcinogenic but the data does not extend to lead chromate pigments. There is no evidence of a risk of lung cancer arising from the use of lead chromate containing products.

Epidemiological data shows an association between elevated maternal blood lead levels and development effects in the offspring. Following the introduction of the criteria for 'Toxic For Reproduction' hazard classification, the EC has classified all lead compounds as causing developmental toxicity in humans. Lead chromate, although of relatively low solubility and bioavailability, is included in this classification.

12. ECOLOGICAL INFORMATION

There is no data available on the product itself.

The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

The product has been assessed following the conventional method in CHIP and is classified as for ecological hazards accordingly. See Sections 3 and 15 for details.

The following information is available on the individual substances that are hazardous to the environment.

Substance	Property	Details
trizinc bis(orthophosphate)	No data available	
Lead Chromates	No data available	

13. DISPOSAL CONSIDERATIONS

Do not allow to enter drains or water courses, or dispose of where ground or surface waters may be affected.

The classification of this product, when disposed of as waste is 08 01 11*. If this product is mixed with other wastes, this code may no longer apply. If mixed with other wastes, the appropriate code should be assigned. For further information contact your local waste authority.

Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with regulations made under the Control of Pollution Act and the Environmental Protection Act.

Using information provided in this data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers.

14. TRANSPORT INFORMATION

Transport within the user's premises

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport Classification


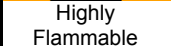

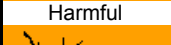


UN Number	1263	Shipping Name	PAINT
Trem Card	30GF1-I+II	Technical Name	-
Pri. Haz. Class	3	Sub. Haz. Class	Packing Group III
Marine EmS	F-E,S-E	Marine Pollutant	No

This information does not apply to carriage by air. Please contact the Export Department of Leighs Paints if transport by air is required.




15. REGULATORY INFORMATION

The product has been classified and labelled for supply in accordance with the CHIP 3 regulations as follows:-

For all colours except those listed in Section 1 as containing lead chromate:

	Xylene (mixture of isomers)
	Contains methyl ethyl ketoxime. May produce an allergic reaction. Highly flammable. Harmful by inhalation and in contact with skin. Irritating to skin. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Keep away from sources of ignition - No smoking. Do not breathe vapour/spray. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. In case of insufficient ventilation, wear suitable respiratory equipment. Use appropriate containment to avoid environmental contamination.. Keep container tightly closed and in a well ventilated place
	
	
	
	

For colours listed in Section 1 as containing lead chromate:

 Highly Flammable	Xylene (mixture of isomers) Lead Chromates
 Toxic	Contains lead. Should not be used on surfaces that are liable to be chewed or sucked by children. Restricted to professional users. Contains methyl ethyl ketoxime. May produce an allergic reaction. Danger of cumulative effects. Irritating to skin. Limited evidence of a carcinogenic effect. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.. May cause harm to the unborn child. Possible risk of impaired fertility. Keep away from sources of ignition - No smoking.. When using do not eat, drink or smoke. Do not breathe vapour/spray. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. During spraying wear air-fed respiratory protective equipment.. Keep container tightly closed and in a well ventilated place
 Dangerous for the environment	

The information contained in this data sheet does not constitute the user's own assessment of workplace risks as required by other health and safety legislation.

The provisions of the Health and Safety at Work etc. Act and the Control of Substances Hazardous to Health Regulations apply to the use of this product at work.

16. OTHER INFORMATION

Full details of R-phrases are as follows:-

R20/21	Harmful by inhalation and in contact with skin.
R33	Danger of cumulative effects.
R36	Irritating to eyes.
R38	Irritating to skin.
R40	Limited evidence of a carcinogenic effect.
R50	Very toxic to aquatic organisms.
R53	May cause long-term adverse effects in the aquatic environment.
R61	May cause harm to the unborn child
R62	Possible risk of impaired fertility.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.

Full details of the hazard classifications are as follows:-

Carc. Cat. 3	Carcinogenic Category 3
Repr. Cat. 1	Toxic for Reproduction Category 1
Repr. Cat. 3	Toxic for Reproduction Category 3

Further information about the hazard classification can be found in the Approved Guide to the Classification and Labelling of Substances and Preparations Dangerous for Supply.

The information in this data sheet is provided in accordance with the requirements of the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002.

The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions. As the specific conditions of use are outside the

supplier's control, the user is responsible for ensuring the requirements of relevant legislation are complied with.

The information contained in this data sheet is based on the present state of knowledge and current national legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

Further information and relevant advice can be found in:

The Chemical (Hazard Information and Packaging for Supply) Regulations 2002 (SI 2002:1689) and amendments.

Control of Pollution Act 1974.

Health and Safety at Work etc. Act 1974

Control of Pollution (Amendment) Act 1989.

Environmental Protection Act 1990

Environment Act 1995

Dangerous Substances and Explosive Atmospheres Regulations 2002 (SI 2002:2776)

Control of Lead at Work Regulations 2002 (SI 2002:2676)

Control of Substances Hazardous to Health Regulations 2002 (SI 2002:2677) and amendments.

Environmental Protection (Prescribed Processes and Substances) Regulations 1991 (SI 1991:472) and amendments.

Manual Handling Operations Regulations 1992 (SI 1992:2793)

Environmental Protection (Duty of Care) Regulations 1992 (SI 1992:2839)

The Approved Code of Practice: Provision and Use of Work Equipment Regulations 1998, L22.

Personal Protective Equipment at Work Regulations 1992 (SI 1992:2966)

Spraying of Highly Flammable Liquids, HSG178

Workplace Exposure Limits, EH40 (revised annually)

Surveillance of People Exposed to Health Risks at Work (ISBN 0 11 8855743).

The storage of flammable liquids in containers, HSG51

Chemical warehousing: the storage of packaged dangerous substances, HSG71

The Approved Classification and Labelling Guide (Fifth Edition), L131.

The Approved Supply List, L142.

The Approved Code of Practice: The Compilation of Safety Data Sheets (Third Edition), L130.

Hazardous Waste (England and Wales) Regulations 2005 (SI 2005:894).

The interpretation and use of flashpoint information, CS24

COSHH Essentials: easy steps to control chemicals, HSG193. Details of available Control Guidance Sheets, which may be relevant to the particular conditions of use, can also be found in HSG193.

Assessing and managing risks at work from skin exposure to chemical agents, 2001, HSG205.

Cost and effectiveness of chemical protective gloves for the workplace, 2001, HSG206.

Choice of skin care products for the workplace, 2001, HSG207.

The safe use and handling of flammable liquids, 2002, HSG140.

The selection, use and maintenance of respiratory protective equipment, 1998, HSG53.

Working safely with solvents, 1998, INDG273

The Carriage of Dangerous Goods by Road Regulations 1996 (SI 1996:2095).

General Ventilation in Workplace - Guidance for Employers, 2002, HSG202.

Pollution Prevention and Control Act 1999

Technical Guidance WM2. Hazardous Waste.

Solvent Emission, England and Wales, Regulations 2004 (SI 2004:107).

Process Guidance Note 6/23 (04)

Secretary of State's Guidance for Coating of Metal and Plastic Processes.

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Pollution Prevention and Control Act 1999

List of Wastes (England) Regulations 2005 (SI 2005:895) and amendment SI 2005:1673.

Management of Health and Safety at Work Regulations 1999 (SI 1999:3242).

Selecting RPE INDG264.