

Attachment G

Resource Use and Energy Efficiency

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ATTACHMENT G

RESOURCE USE AND ENERGY EFFICIENCY

G.1 Raw Materials, Intermediates and Products

Solvent based primer and thinners are supplied by Leigh's Paints and are stored in two small separate concrete block bund structure located to the west of the main production building. The storage building measures approximately 2.0m (w) x 8.0m (l) x 3.5m (h). The bunds are open on two sides which prevents the build up of potentially noxious and dangerous gases.

The facility uses approximately 1325 kg of paint per week. This equates to approximately 39kg of Leigh's Resistex C137V2 per week; 69kg of Leigh's Epigrip C400V2 per week; 868kg of Leigh's Epigrip C400V3 per week, 0.5kg of Leigh's M600 per week; 246kg of Leigh's Firetex FX2000 per week; 31kg of Leigh's Firetex M69 per week and 48kg of Leigh's Firetex M71V2 per week. Approximately 23kg of Tetrosyl Thinners are also used per week for cleaning purposes. Gas fired heaters are currently being installed to heat the workshop area. These are expected to become operational before 2009. The following is a list of paints and raw materials used at the KSSL facility. The associated material safety data sheets are given below.

Raw material	Details
Resistex C137V2 Special Finish	Finish
Epigrip C400V2 Primer / Buildcoat	Primer / Buildcoat
Epigrip C400V3 Primer / Buildcoat	Primer / Buildcoat
Leigh's M115 Matt Finish	Finish
Leigh's M600 Primer	Primer
Firetex FX2000	Intumescent coating
Firetex M69 Fast-Track Blast Primer	Primer
Firetex M71V2	Sealer coat
Tetrosyl Standard Thinner	Thinner used for cleaning
Metabrasive Shot	Metal shot used for shot blasting

Raw material	Details
Liquefied Propane Gas	Workshop area heaters
Coogar 15 Gas	Welding Gas
Oxygen	Welding Gas
Acetylene	Welding Gas
Salt	Softener
Electricity	Power for motors, fans, lighting, etc.
Virgin Steel	Raw material to be fabricated and coated
Diesel / Green Diesel	Fuel for vehicles

G.2 Energy Efficiency

Gas usage is as yet unknown as the new gas heating system has not been fully installed. There is the capacity to store 9m³ of gas on site in two storage tanks located to the east of the main production building. The gas will be supplied by Calor Gas. KSSL consumes approximately 353.5 MWh of electricity per annum.

An energy audit, with reference to the EPA guidance document on Energy Audits, will be carried out on an annual basis or as requested by the EPA. The benefits of updating plant and equipment that are more energy efficient will be continually reviewed.



Resistex C137V2

PRODUCT HEALTH AND SAFETY DATA

Product Reference : Resistex C137V2
Date of Issue : 05/02/08

Issue : 9 REVISION
Page : 1 of 13

1. IDENTIFICATION OF PREPARATION AND OF COMPANY

Full name Resistex C137V2 Special 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 high performance fast drying gloss finish for application by spray, brush or roller. Based on a two pack acrylic urethane resin system with inorganic and/or organic pigments and containing xylene, ethyl 3-ethoxypropionate, aromatic hydrocarbon and 1-methoxy-2-propyl acetate 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.

Alert Orange - R5598

Apricot - R5421

BS381C 216 - Eau-De-Nil

BS381C 217 - Sea Green

BS381C 218 - Grass Green

BS381C 220 - Olive Green

BS381C 221 - Brilliant Green

BS381C 225 - Light Brunswick Green

BS381C 226 - Mid Brunswick Green

BS381C 227 - Deep Brunswick Green

BS381C 228 - Emerald Green

BS381C 262 - Bold Green

BS381C 309 - Canary Yellow

BS381C 310 - Primrose

BS381C 320 - Light Brown

BS381C 352 - Pale Cream

BS381C 353 - Deep Cream

BS381C 355 - Lemon

BS381C 356 - Golden Yellow

BS381C 363 - Bold Yellow

BS381C 411 - Middle Brown

BS381C 412 - Dark Brown

BS381C 414 - Golden Brown

BS381C 537 - Signal Red

BS381C 539 - Currant Red

BS381C 557 - Light Orange

BS381C 564 - Bold Red

BS381C 568 - Apricot

BS381C 592 - International Orange

BS381C 593 - Rail Red

BS4800 04E51 - Azalea

BS4800 04E53 - Red

BS4800 06C39 - Tobacco

BS4800 06D43 - Orange Tan

BS4800 06E51 - Nasturtium

BS4800 08C37 - Bracken

BS4800 08E51 - Golden Yellow

BS4800 10C33 - Pollen

BS4800 10C35 - Mustard

BS4800 10C39 - Seaweed

BS4800 10D43 - Gorse

BS4800 10D45 - Olive Gold

BS4800 10E53 - Canary Yellow

BS4800 12B29 - Black Forest

BS4800 12C33 - Willow

BS4800 12D43 - Sapling

BS4800 12D45 - Avocado

BS4800 12E51 - Lime Green

BS4800 12E53 - Linden	RAL 1005 - Honey Yellow
BS4800 14E51 - April Green	RAL 1006 - Maize Yellow
BS4800 14E53 - Emerald	RAL 1007 - Chrome Yellow
BS5252 04D41	RAL 1012 - Lemon Yellow
BS5252 04E56	RAL 1017 - Saffron Yellow
BS5252 06D45	RAL 1018 - Zinc Yellow
BS5252 06E50	RAL 1021 - Cadmium Yellow
BS5252 06E56	RAL 1023 - Traffic Yellow
BS5252 08C39 - Dark Brown	RAL 1027 - Curry Yellow
BS5252 08E53	RAL 1028 - Melon Yellow
BS5252 10C37	RAL 1032 - Broom Yellow
BS5252 10E50	RAL 1033 - Dahlia Yellow
BS5252 10E51	RAL 1034 - Pastel Orange
BS5252 10E55	RAL 150 60 40
BS5252 12C39	RAL 2000 - Yellow Orange
Bailey Green - R5306	RAL 2001 - Red Orange
Buckingham - R5063	RAL 2002 - Blood Orange
Buff - R5415	RAL 2003 - Pastel Orange
Dark Green - R5542	RAL 2004 - Pure Orange
Dutch Military Green - R5284	RAL 2008 - Yellow Orange
Estates Green - R5149	RAL 2009 - Traffic Orange
Federal Yellow - R5473	RAL 2010 - Signal Orange
Green - R5034	RAL 2011 - Deep Orange
Green - R5057	RAL 3000 - Fire Red
Green - R5083	RAL 3001 - Signal Red
Green - R5121	RAL 3016 - Coral Red
Green - R5128	RAL 3017 - Pink
Green - R5273	RAL 3018 - Strawberry Red
Green - R5276	RAL 3020 - Traffic Red
Green - R5417	RAL 3022 - Salmon Red
Green - R5578	RAL 6001 - Emerald Green
High Visibility Orange - R4043	RAL 6002 - Leaf Green
Honey Yellow - R5230	RAL 6005 - Moss Green
Light Green - R5305	RAL 6007 - Bottle Green
Munsell 2.5G 5/10	RAL 6009 - Fir Green
Munsell 2.5YR 6/13	RAL 6010 - Grass Green
Ochre - R5444	RAL 6016 - Turquoise Green
Orange - R4908	RAL 6017 - May Green
Orange - R5022	RAL 6018 - Yellow Green
Orange - R5343	RAL 6019 - White Green
Orange - R5416	RAL 6024 - Traffic Green
Orange - R5527	RAL 6029 - Mint Green
Primrose - R5422	RAL 6031 - Bronze Green
RAL 100 60 60	RAL 6032 - Signal Green
RAL 1000 - Green Beige	RAL 8001 - Ochre Brown
RAL 1003 - Signal Yellow	RAL 8003 - Loam Brown
RAL 1004 - Gold Yellow	RAL 8007 - Deer Brown

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RAL 8008 - Olive Brown	Shell 9 Dark Green
RAL 8012 - Red Brown	Yellow - R4107
RAL 8016 - Mahogany Brown	Yellow - R4622
RAL 8023 - Orange Brown	Yellow - R4974
Red - R5079	Yellow - R5112
Red - R5277	Yellow - R5161
Red - R5282	Yellow - R5265
Red - R5419	Yellow - R5314
Red Orange - R5304	Yellow - R5424
Remop Orange - R5224	Yellow - R5465
Shell 21 Pale Green	Yellow - R5629
Shell 4 Yellow	Yellow Green - R5326

2. HAZARDS IDENTIFICATION

Base:

	R10	Flammable.
Xn	R20	Harmful by inhalation.
	R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Base (for colours containing lead chromate):

	R10	Flammable.
	R33	Danger of cumulative effects.
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.

Additive:

	R43	May cause sensitisation by skin contact.
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3. 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
Base:				
Xylene (mixture of isomers)	10-25%	Xi Xn	R38 R20/21	215-535-7
1,2,4-trimethylbenzene	2.5-10%	N Xi Xn	R53 R51 R36/37/38 R20	202-436-9
Solvent Naphtha (petroleum), light aromatic	2.5-10%	Xn	R65	265-199-0
Ethylbenzene	2.5-10%	Xn	R20	202-849-4

Propylbenzene	<1%	N Xi Xn	R53 R51 R37 R65	203-132-9
1,2,2,6,6-pentamethylpiperidine derivative	<1%	N Xi	R50/53 R43	
Base (for colours containing lead chromate):				
Lead Chromates	>1%	Carc. Cat. 3 N Repr. Cat. 1 Repr. Cat. 3	R33 R53 R40 R50 R61 R62	231-846-0
Xylene (mixture of isomers)	2.5-10%	Xi Xn	R38 R20/21	215-535-7
1,2,4-trimethylbenzene	2.5-10%	N Xi Xn	R53 R51 R36/37/38 R20	202-436-9
Solvent Naphtha (petroleum), light aromatic	2.5-10%	Xn	R65	265-199-0
Ethylbenzene	<2.5%	Xn	R20	202-849-4
Propylbenzene	<1%	N Xi Xn	R53 R51 R37 R65	203-132-9
1,2,2,6,6-pentamethylpiperidine derivative	<1%	N Xi	R50/53 R43	
Additive:				
Aliphatic polyisocyanate	>50%	Xi	R43	
2-methoxy-1-methylethyl acetate	10-25%	Xi	R36	203-603-9
Hexamethylene-di-isocyanate	<1%	T Xi Xi Xn	R23 R36/37/38 R43 R42	212-485-8

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

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 spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in a suitable container. The contaminated area should be cleaned up immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises: water (45 parts by volume)/ ethanol or isopropanol (50 parts)/ concentrated (d: 0.880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts)/ water (95 parts). Add the same decontaminant to any residues and allow to stand for several days in a non-sealed container until no further reaction occurs. Once this stage is reached, close the container and dispose of 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

Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should only be employed in processes in which this product is used under appropriate medical supervision.

Persons with a history of skin sensitisation problems should only be employed in processes in which this product is used under appropriate medical supervision.

Persons with chronic eczema should not be engaged in any process which involves the use of paints containing isocyanates.

This product contains a skin sensitiser. Hands should be inspected on a regular basis for any signs of skin damage or inflammation. If in doubt, advice should be taken from a competent occupational health practitioner on assessment and health surveillance of employees exposed to this product (the HSE's Employment Medical Advisory Service can advise on competency).

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. 89 m³/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.

Precautions should be taken to minimise the exposure to atmospheric humidity or water as carbon dioxide may be formed which, in closed containers can result in pressurisation. Care should be taken when re-opening partly use containers.

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	Base	Additive	Composite
5 litre can	5.8 - 7.6 kg	0.6 kg	6.5 - 8.3 kg
20 litre pail	23.4 - 30.6 kg	2.6 kg	26.0 - 33.2 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 workplace 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 acidic materials, amines, alcohols and water.

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. Spraying of isocyanate containing products should only be carried out in suitable spray booths or enclosures equipped with effective exhaust ventilation to prevent spray mist escaping into the work area outside the spray booth. Respiratory protective equipment should be worn by spray booth operators (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.

Workplace Exposure Limits

Substance	8 hr TWA¹	15 min STEL²	Notes
1,2,4-trimethylbenzene	25ppm		
1-methoxypropyl acetate	50ppm	100ppm	Sk ³
Ethylbenzene	100ppm	125ppm	Sk ³
Isocyanates	0.02mg/m ³	0.07mg/m ³	
Lead Chromates	0.15mg/m ³		
Xylene (mixture of isomers)	50ppm	100ppm	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.

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. This should be in addition to other measures taken to reduce the exposure (e.g. in booth design and operation and process modifications). Non-essential and unprotected people should be excluded from the area if exposure is possible.

When operators, whether spraying or not, have to work inside the spray booth, they should wear an air-fed respirator during the spraying process and until such time as the spray mist has cleared.

Brush and roller application of paints containing isocyanates present a low risk of the creation of airborne drops or mists of isocyanate vapour. Where these cannot be avoided the HSE suggests that full-face respirators with AXP3 filters (to BS EN 371) are used as long as there is no risk of oxygen deficiency. Air-fed respiratory protective equipment should be worn if there is any doubt in the adequacy of the ventilation or if there is any likelihood of the WEL being exceeded.

To avoid the inhalation of dusts, 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.

Under cool, dry conditions, it is possible for the isocyanate to remain unreacted in the paint film for up to 30 hours after application. If dry flatting is unavoidable, air-fed 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

The figures given below, unless otherwise stated, refer to the composite material.

Physical State	Viscous liquid
Odour	Characteristic odour
Colour	Various
Density	1.4 g/cm ³
Viscosity - base	2.0 - 3.0 poise BS3900:Part A7 at 25°C
Viscosity - additive	1.2 - 1.8 poise BS3900:Part A7 at 25°C
Flash Point - base	30°C
Flash Point - additive	58°C
Volatile Organic Content	317 g/kg
Explosion Limit - lower	1.0%
Water Solubility	Immiscible
Boiling Point	137°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, oxides of nitrogen, hydrogen cyanide, amines and alcohols may be produced.

Keep away from oxidising agents and strongly alkaline and strongly acidic materials. Uncontrolled exothermic reactions occur with amines and alcohols. The product reacts slowly with water resulting in evolution of carbon dioxide. In closed containers, pressure build up could result in distorting, blowing and in extreme cases bursting the container.

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.

Based on the properties of the isocyanate content of this product, respiratory exposure may cause acute irritation and/or sensitisation of the respiratory system, resulting in asthmatic symptoms, wheezing and a tightness of the chest. Sensitised persons may subsequently show asthmatic symptoms when exposed to airborne concentrations of isocyanates well below the workplace exposure limit. Repeated exposure may lead to permanent respiratory disability.

COSHH requires that persons exposed to products containing isocyanates, which are respiratory sensitisers, are subject to appropriate health surveillance. Publications giving guidance on health surveillance are listed in Section 16.

Contains 1,2,2,6,6-pentamethylpiperidine derivative. 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
1,2,4-trimethylbenzene	No data available	
Propylbenzene	Mobility Persistence and Biodegradability	Low to medium soil mobility (1-3) Propylbenzene will probably biodegrade if released to soil or water.
1,2,2,6,6-pentamethylpiperidine derivative	Persistence and Biodegradability	Partially, but not readily biodegradable.
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 safety 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

Base:

UN Number	1263	Shipping Name	PAINT
Trem Card	30GF1-III	Technical Name	-
Pri. Haz. Class	3	Sub. Haz. Class	
		Packing Group	III

Marine EmS F-E,S-E Marine Pollutant No

Additive:

UN Number 1263 Shipping Name PAINT
 Trem Card 30GF1-III 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:-

Base:


X	<p>Contains 1,2,2,6,6-pentamethylpiperidine derivative. May produce an allergic reaction. Flammable. Harmful by inhalation. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not breathe vapour/spray. In case of insufficient ventilation, wear suitable respiratory equipment. This material and/or its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheet.</p>
Harmful	

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Base (for colours containing lead chromate):

	Lead Chromates
	<p>Contains lead. Should not be used on surfaces that are liable to be chewed or sucked by children. Restricted to professional users. Contains 1,2,2,6,6-pentamethylpiperidine derivative. May produce an allergic reaction. Flammable. Danger of cumulative effects. 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.. When using do not eat, drink or smoke. Do not breathe vapour/spray. During spraying wear air-fed respiratory protective equipment. Use appropriate containment to avoid environmental contamination. This material and/or its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheet.</p>
Toxic	
	
Dangerous for the environment	

Additive:

	Aliphatic polyisocyanate
	Contains isocyanates. See information supplied by the manufacturer. May cause sensitisation by skin contact. Do not breathe vapour/spray. Wear suitable protective clothing and gloves In case of insufficient ventilation, wear suitable respiratory equipment.
Irritant	

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 | Harmful by inhalation. |
| R20/21 | Harmful by inhalation and in contact with skin. |
| R23 | Toxic by inhalation. |
| R33 | Danger of cumulative effects. |
| R36 | Irritating to eyes. |
| R36/37/38 | Irritating to eyes, respiratory system and skin. |
| R37 | Irritating to respiratory system. |
| R38 | Irritating to skin. |
| R40 | Limited evidence of a carcinogenic effect. |
| R42 | May cause sensitisation by inhalation. |
| R43 | May cause sensitisation by skin contact. |
| R50 | Very toxic to aquatic organisms. |
| R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R51 | 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. |

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

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

Isocyanates: health hazards and precautionary measures, EH16

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).

Breathe Freely, INDG172

Respiratory Sensitisers and COSHH - a guide for employers, INDG95

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.

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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.
Pollution Prevention and Control Act 1999.
Environment Act 1995.
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

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Epigrip C400V2

PRODUCT HEALTH AND SAFETY DATA

Product Reference : Epigrip C400V2
Date of Issue : 08/08/03

Issue : 4 REVISION
Page : 1 of 8

1. IDENTIFICATION OF PREPARATION AND OF COMPANY

Full name Epigrip C400V2 Zinc Phosphate Primer/Buildcoat

Manufacturer W & J Leigh & Co., 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 high build anticorrosive primer/buildcoat for application by spray, brush or roller. Based on a two pack epoxy resin system with zinc phosphate and other inorganic pigments and containing xylene solvent.

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 (CHIP 3).

Substance	Weight in Paint	Classification	Risk Phrases*	EINECS Number
Base:				
Epoxy resin (Numbers Average Mol Wt <= 700)	10-25%	N N Xi Xi	R51 R53 R36/38 R43	500-033-8
Xylene (mixture of isomers)	10-25%	Xi Xn	R38 R20/21	215-535-7
Additive:				
Benzyl alcohol	25-50%	Xn	R20/22	202-859-9
Xylene (mixture of isomers)	10-25%	Xi Xn	R38 R20/21	215-535-7
2,4,6-tris(dimethylaminomethyl) phenol	10-25%	Xi Xn	R36/38 R22	202-013-9
Triethylenetetramine	<2.5%	 C Xi Xn	R52 R53 R34 R43 R21	203-950-6

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

3. HAZARDS IDENTIFICATION

Base:

	R10	Flammable.
Xn	R20/21	Harmful by inhalation and in contact with skin.
Xi	R36/38	Irritating to eyes and skin.
Xi	R43	May cause sensitisation by skin contact.
	R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Additive:

	R10	Flammable.
Xn	R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
Xi	R38	Irritating to skin.
Xi	R43	May cause sensitisation by skin contact.

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

Persons with a history of skin sensitisation problems should only be employed in processes in which this product is used under appropriate medical supervision.

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 occupational 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. 56 m³/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	Base	Additive	Composite
5 litre can	7.9 - 9.2 kg	0.7 kg	8.6 - 9.9 kg
20 litre pail	31.5 - 36.8 kg	2.8 kg	34.3 - 39.5 kg

Storage

The storage and use of this product is subject to the requirements of the Highly Flammable Liquids and Liquefied Petroleum Gases Regulations. Up to 50 litres of such highly flammable liquids may be kept in a work room provided they are kept in a fire-proof cupboard or bin. Larger quantities must be kept in a separate storeroom conforming to the structural requirements of the regulations. Further guidance is 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 occupational exposure limits, suitable respiratory protective equipment should be worn (see 'Personal Protection' below).

Exposure Limits

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

Occupational Exposure Limits

Substance	8 hr TWA ¹	15 min STEL ²	Notes
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		Occupational exposure standard.

Further guidance on OES/MEL and the assessment of occupational 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 Occupational Exposure limits and engineering controls and methods cannot reasonably be improved.

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

The figures given below, unless otherwise stated, refer to the composite material.

Physical State	Viscous liquid
Odour	Characteristic odour
Colour	Various
Density	1.6 g/cm ³
Viscosity - base	20 - 40 poise Rotothinner at 20°C
Viscosity - additive	45 - 60 seconds B5 cup at 20°C
Flash Point - base	24°C
Flash Point - additive	26°C
Volatile Organic Content	217 g/ltr
Explosion Limit - lower	1.0%
Water Solubility	Immiscible
Boiling Point	137°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.

Based on the properties of the epoxy constituent(s) and considering toxicological data on similar preparations, this preparation may be a skin sensitizer and an irritant. It contains low molecular epoxy constituents which are irritating to eyes, mucous membrane and skin. Repeated skin contact may lead to irritation and to sensitisation, possibly with cross-sensitisation to other epoxies. Skin contact with the preparation and exposure to spray mist and vapour should be avoided.

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 not classified as dangerous for the environment, but contains substances so classified. See Section 2 for details.

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

Substance	Property	Details
Epoxy resin (Numbers Average Mol Wt <= 700)	Mobility	Sinks in water. If product enters soil it will be mobile and may contaminate groundwater.
	Persistence and Biodegradability	Expected to be not readily biodegradable.
	Other adverse effects	Has the potential to bioaccumulate.
Triethylenetetramine	Mobility	A significant proportion will remain in soil after one day.

13. DISPOSAL CONSIDERATIONS

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

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 environment agency whether the Special Waste Regulations apply.

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

Base:

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

Additive:


UN Number	1263	Shipping Name	PAINT		
Trem Card	30GF1-III	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 W. & J. Leigh & Co. 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:-

Base:

	Xylene (mixture of isomers) Epoxy resin (Numbers Average Mol Wt <= 700)
	Contains epoxy constituents. See information supplied by the manufacturer. Flammable. Harmful by inhalation and in contact with skin. Irritating to eyes and skin. May cause sensitisation by skin contact. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not breathe vapour/spray. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.. Wear suitable protective clothing and gloves. In case of insufficient ventilation, wear suitable respiratory equipment. This material and/or its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheet.

Additive:

	Xylene (mixture of isomers) Benzyl alcohol Triethylenetetramine
	Flammable. Harmful by inhalation, in contact with skin and if swallowed. Irritating to skin. May cause sensitisation by skin contact. Do not breathe the vapour/spray. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves In case of insufficient ventilation, wear suitable respiratory equipment.

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.
R20/22	Harmful by inhalation and if swallowed.
R21	Harmful in contact with skin.
R22	Harmful if swallowed.
R34	Causes burns.
R36/38	Irritating to eyes and skin.
R38	Irritating to skin.
R43	May cause sensitisation by skin contact.
R51	Toxic to aquatic organisms.
R52	Harmful to aquatic organisms.
R53	May cause long-term adverse effects in the aquatic environment.

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.

Health and Safety at Work etc. Act 1974

Environmental Protection Act 1990

Highly Flammable Liquids and Liquefied Petroleum Gases Regulations 1972 (SI 1972:917)

Collection and Disposal of Waste Regulations 1988 (SI 1991:2839)

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

Manual Handling Operations Regulations 1992 (SI 1992:2793)

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

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

Spraying of Highly Flammable Liquids, HSG178

Occupational Exposure Limits, EH40 (revised annually)

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, L129.

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

Special Waste Regulations 1996 (SI 1996:972) and amendments

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.

A Guide to Working with Solvents, INDG 272

Working safely with solvents, 1998, INDG273



Epigrip C400V3

PRODUCT HEALTH AND SAFETY DATA

Product Reference : Epigrip C400V3
Date of Issue : 10/02/06

Issue : 2 REVISION
Page : 1 of 9

1. IDENTIFICATION OF PREPARATION AND OF COMPANY

Full name Epigrip C400V3 Quick Drying Zinc Phosphate Primer/Buildcoat

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 high build anticorrosive primer/buildcoat for application by spray, brush or roller. Based on a two pack epoxy resin system with zinc phosphate and other inorganic pigments and containing xylene solvent.

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
Base:				
Epoxy resin (Numbers Average Mol Wt <= 700)	10-25%	N Xi Xi	R53 R51 R36/38 R43	500-033-8
Xylene (mixture of isomers)	10-25%	Xi Xn	R38 R20/21	215-535-7
trizinc bis(orthophosphate)	<2.5%	N	R53 R50	231-944-3
Additive:				
Benzyl alcohol	25-50%	Xn	R20/22	202-859-9
Xylene (mixture of isomers)	10-25%	Xi Xn	R38 R20/21	215-535-7
2,4,6-tris(dimethylaminomethyl) phenol	10-25%	Xi Xn	R36/38 R22	202-013-9
Triethylenetetramine	<2.5%	C Xi Xn	R52 R53 R34 R43 R21	203-950-6

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

3. HAZARDS IDENTIFICATION

Base:

	R10	Flammable.
Xn	R20/21	Harmful by inhalation and in contact with skin.
Xi	R36/38	Irritating to eyes and skin.
Xi	R43	May cause sensitisation by skin contact.
N	R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Additive:

	R10	Flammable.
Xn	R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
Xi	R38	Irritating to skin.
Xi	R43	May cause sensitisation by skin contact.

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

Persons with a history of skin sensitisation problems should only be employed in processes in which this product is used under appropriate medical supervision.

This product contains a skin sensitiser. Hands should be inspected on a regular basis for any signs of skin damage or inflammation. If in doubt, advice should be taken from a competent occupational health practitioner on assessment and health surveillance of employees exposed to this product (the HSE's Employment Medical Advisory Service can advise on competency).

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. 65 m³/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	Base	Additive	Composite
5 litre can	6.0 - 7.4 kg	1.6 kg	7.6 - 9.0 kg
20 litre pail	23.8 - 29.4 kg	6.6 kg	30.4 - 36.0 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 workplace 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 TWA ¹	15 min STEL ²	
Xylene (mixture of isomers)	50ppm	100ppm	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.

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.

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

The figures given below, unless otherwise stated, refer to the composite material.

Physical State	Viscous liquid
Odour	Characteristic odour
Colour	Various
Density	1.5 g/cm ³
Viscosity - base	13 - 17 poise Rotothinner at 20°C (shades not containing MIO) 24 poise Rotothinner at 20°C (shades containing MIO)
Viscosity - additive	45 - 60 seconds B5 cup at 20°C
Flash Point - base	24°C
Flash Point - additive	26°C
Volatile Organic Content	188 g/Kg
Explosion Limit - lower	1.0%
Water Solubility	Immiscible
Boiling Point	137°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.

Based on the properties of the epoxy constituent(s) and considering toxicological data on similar preparations, this preparation may be a skin sensitiser and an irritant. It contains low molecular epoxy constituents which are irritating to eyes, mucous membrane and skin. Repeated skin contact may lead to irritation and to sensitisation, possibly with cross-sensitisation to other epoxies. Skin contact with the preparation and exposure to spray mist and vapour should be avoided.

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
Epoxy resin (Numbers Average Mol Wt <= 700)	Mobility	Sinks in water. If product enters soil it will be mobile and may contaminate groundwater.
	Persistence and Biodegradability	Expected to be not readily biodegradable.
	Other adverse effects	Has the potential to bioaccumulate.
trizinc bis(orthophosphate)	No data available	
Triethylenetetramine	Mobility	A significant proportion will remain in soil after one day.

The Air Pollution Control requirements of regulations made under the Environmental Protection Act may apply to the use of this product.

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

Base:

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

Additive:



UN Number	1263	Shipping Name	PAINT		
Trem Card	30GF1-III	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:-

Base:

	Xylene (mixture of isomers) Epoxy resin (Numbers Average Mol Wt <= 700)
 Harmful	Contains epoxy constituents. See information supplied by the manufacturer. Flammable. Harmful by inhalation and in contact with skin. Irritating to eyes and skin. May cause sensitisation by skin contact. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not breathe vapour/spray. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.. Wear suitable protective clothing and gloves In case of insufficient ventilation, wear suitable respiratory equipment. Use appropriate containment to avoid environmental contamination. This material and/or its container must be disposed of as hazardous waste.
 Dangerous for the environment	

Additive:

	Xylene (mixture of isomers) Benzyl alcohol Triethylenetetramine
 Harmful	Flammable. Harmful by inhalation, in contact with skin and if swallowed. Irritating to skin. May cause sensitisation by skin contact. Do not breathe vapour/spray. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves In case of insufficient ventilation, wear suitable respiratory equipment.

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. |
| R20/22 | Harmful by inhalation and if swallowed. |
| R21 | Harmful in contact with skin. |
| R22 | Harmful if swallowed. |
| R34 | Causes burns. |
| R36/38 | Irritating to eyes and skin. |

R38	Irritating to skin.
R43	May cause sensitisation by skin contact.
R50	Very toxic to aquatic organisms.
R51	Toxic to aquatic organisms.
R52	Harmful to aquatic organisms.
R53	May cause long-term adverse effects in the aquatic environment.

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 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.
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

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Leighs M155

PRODUCT HEALTH AND SAFETY DATA

Product Reference : Leighs M155
Date of Issue : 07/11/07

Issue : 12 REVISION
Page : 1 of 10

1. IDENTIFICATION OF PREPARATION AND OF COMPANY

Full name Leighs M155 Matt 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 An anticorrosive protective finish for application by spray, brush or roller to internal dry structures. Based on an alkyd resin system with inorganic and/or organic pigments and containing xylene and 2-butoxyethanol 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.

BS381C 216 - Eau-De-Nil

RAL 6001 - Emerald Green

BS381C 537 - Signal Red

RAL 6002 - Leaf Green

BS4800 04E53 - Red

RAL 6010 - Grass Green

BS4800 06C39 - Tobacco

Yellow

BS4800 08E51 - Golden Yellow

Yellow - R4107

BS4800 10E53 - Canary Yellow

Yellow - R4622

RAL 1007 - Chrome Yellow

Yellow - R4974

2. HAZARDS IDENTIFICATION

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

	R10	Flammable.
Xn	R20/21	Harmful by inhalation and in contact with skin.
Xi	R38	Irritating to skin.
	R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

For colours listed in Section 1 as containing lead chromate:

	R10	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.

3. 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
Ethylbenzene	<2.5%	Xn	R20	202-849-4
trizinc bis(orthophosphate)	<2.5%	N	R53 R50	231-944-3
2-Butoxyethanol	<2.5%	Xi Xn	R36/38 R20/21/22	203-905-0
1,2,4-trimethylbenzene	<1%	N Xi Xn	R53 R51 R36/37/38 R20	202-436-9
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
Ethylbenzene	<2.5%	Xn	R20	202-849-4
trizinc bis(orthophosphate)	<2.5%	N	R53 R50	231-944-3
2-Butoxyethanol	<2.5%	Xi Xn	R36/38 R20/21/22	203-905-0
1,2,4-trimethylbenzene	<2.5%	N Xi Xn	R53 R51 R36/37/38 R20	202-436-9
Solvent Naphtha (petroleum), light aromatic	<2.5%	Xn	R65	265-199-0
Propylbenzene	<1%	N Xi Xn	R53 R51 R37 R65	203-132-9

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

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.	157 m ³ /ltr
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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	8.0 - 8.5 kg
20 litre pail	32.0 - 34.0 kg
200 litre barrel	320 - 340 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 workplace 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 TWA ¹	15 min STEL ²	
1,2,4-trimethylbenzene	25ppm		
2-Butoxyethanol	25ppm	50ppm	Sk ³
Ethylbenzene	100ppm	125ppm	Sk ³
Lead Chromates	0.15mg/m ³		
Xylene (mixture of isomers)	50ppm	100ppm	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.

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	1.5 g/cm ³
Viscosity	2.0 - 4.0 poise BS3900:Part A7 at 25°C
Flash Point	28°C
Volatile Organic Content	281 g/kg
Explosion Limit - lower	0.6%
Water Solubility	Immiscible
Boiling Point	137°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	
1,2,4-trimethylbenzene	No data available	
Lead Chromates	No data available	
Propylbenzene	Mobility	Low to medium soil mobility (1-3)
	Persistence and Biodegradability	Propylbenzene will probably biodegrade if released to soil or water.

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 safety 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-III	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.

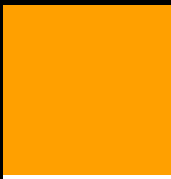


15. REGULATORY INFORMATION

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. Flammable. Harmful by inhalation and in contact with skin. Irritating to skin. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. 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. This material and/or its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheet.
Harmful	

For colours listed in Section 1 as containing lead chromate:

	Xylene (mixture of isomers) Lead Chromates
	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. Flammable. Danger of cumulative effects. Irritating to skin. Limited evidence of a carcinogenic effect.. May cause harm to the unborn child. Possible risk of impaired fertility.. 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. Use appropriate containment to avoid environmental contamination. This material and/or its container must be disposed of as hazardous waste.
Toxic	
	
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	Harmful by inhalation.
R20/21	Harmful by inhalation and in contact with skin.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R33	Danger of cumulative effects.
R36/37/38	Irritating to eyes, respiratory system and skin.
R36/38	Irritating to eyes and skin.
R37	Irritating to respiratory system.
R38	Irritating to skin.
R40	Limited evidence of a carcinogenic effect.
R50	Very toxic to aquatic organisms.
R51	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.

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

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.

Pollution Prevention and Control Act 1999.

Environment Act 1995.

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

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Leighs M600

PRODUCT HEALTH AND SAFETY DATA

Product Reference : Leighs M600
Date of Issue : 22/01/07

Issue : 9 REVISION
Page : 1 of 7

1. IDENTIFICATION OF PREPARATION AND OF COMPANY

Full name Leighs M600 Quick Drying Zinc Phosphate Primer

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 quick drying anticorrosive primer for spray or brush application to steel surfaces. Based on an alkyd resin system with zinc phosphate and other inorganic pigments and containing xylene solvent.

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
Xylene (mixture of isomers)	25-50%	Xi Xn	R38 R20/21	215-535-7
trizinc bis(orthophosphate)	<2.5%	N	R53 R50	231-944-3
Ethylbenzene	<2.5%	Xn	R20	202-849-4

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

3. HAZARDS IDENTIFICATION

	R10	Flammable.
Xn	R20/21	Harmful by inhalation and in contact with skin.
Xi	R38	Irritating to skin.
	R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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

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.	193 m ³ /ltr
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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

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 workplace 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.

Workplace Exposure Limits

Substance	8 hr TWA ¹	15 min STEL ²	Notes
Ethylbenzene	100ppm	125ppm	Sk ³
Xylene (mixture of isomers)	50ppm	100ppm	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.

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.

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	1.0 - 2.0 poise BS3900:Part A7 at 25°C
Flash Point	24°C
Volatile Organic Content	391g/kg
Explosion Limit - lower	0.6%
Water Solubility	Immiscible
Boiling Point	137°C

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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.

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	

The Air Pollution Control requirements of regulations made under the Environmental Protection Act may apply to the use of this product.

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 safety 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-III	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:-

	Xylene (mixture of isomers)
	Contains methyl ethyl ketoxime. May produce an allergic reaction. Flammable. Harmful by inhalation and in contact with skin. Irritating to skin. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. 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. This material and/or its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheet.
Harmful	

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	Harmful by inhalation.
R20/21	Harmful by inhalation and in contact with skin.
R38	Irritating to skin.
R50	Very toxic to aquatic organisms.
R53	May cause long-term adverse effects in the aquatic environment.

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

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

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.

Pollution Prevention and Control Act 1999.

Environment Act 1995.

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



Firetex FX2000

PRODUCT HEALTH AND SAFETY DATA

Product Reference : Firetex FX2000
Date of Issue : 26/10/07

Issue : 3 REVISION
Page : 1 of 8

1. IDENTIFICATION OF PREPARATION AND OF COMPANY

Full name Firetex FX2000 Intumescent Coating

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 thin film intumescent coating for application by spray. Based on an acrylic resin system with thermally active pigments and containing toluene and butanone solvents.

2. HAZARDS IDENTIFICATION

F	R11	Highly flammable.
Xi	R38	Irritating to skin.
Xn	R48/20	Harmful; danger of serious damage to health by prolonged exposure through inhalation.
	R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Repr. Cat. 3	R63	Possible risk of harm to the unborn child.
	R67	Vapours may cause drowsiness and dizziness.

3. 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
Toluene	10-25%		R67	203-625-9
		Repr. Cat. 3	R63	
		Xi	R38	
		Xn	R48/20	
		Xn	R65	
Butanone	<2.5%		R66	201-159-0
			R67	
		Xi	R36	
Zinc borate	<2.5%		R53	215-566-6
		N	R50	

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

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

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. 72 m³/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
20 litre pail	30.0 kg
200 litre barrel	300.0 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 workplace 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 TWA ¹	15 min STEL ²	
Butan-2-one	200ppm	300ppm	Sk ³
Toluene	50ppm	100ppm	Sk ³
Zinc borate	5.00mg/m ³	10.00mg/m ³	Sup

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.

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.

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	White
Density	1.3 g/cm ³
Viscosity	25 - 40 poise Rotothinner at 20°C
Flash Point	2°C
Volatile Organic Content	262 g/kg
Explosion Limit - lower	1.3%
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.

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 not classified as dangerous for the environment, but contains substances so classified. See Section 2 for details.

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

Substance	Property	Details
Zinc borate	Mobility	Sparingly soluble in water and may leach through soil.
	Persistence and Biodegradability	Under certain environmental conditions will slowly hydrolyse to form other inorganic chemicals such as zinc hydroxide and boric acid.
	Other adverse effects	Stunted and retarded full growth of riverside plants are reported where zinc levels are excessive.

The Air Pollution Control requirements of regulations made under the Environmental Protection Act may apply to the use of this product.

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 safety 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:-

	Toluene
Highly Flammable	Highly flammable. Irritating to skin. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Possible risk of harm to the unborn child. Vapours may cause drowsiness and dizziness. 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. This material and/or its container must be disposed of as hazardous waste.. Keep container tightly closed and in a well ventilated place
	
Harmful	

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:-

R36	Irritating to eyes.
R38	Irritating to skin.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R50	Very toxic to aquatic organisms.
R53	May cause long-term adverse effects in the aquatic environment.
R63	Possible risk of harm to the unborn child.
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:-

Repr. Cat. 3	Toxic for Reproduction Category 3
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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

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

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

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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.

Pollution Prevention and Control Act 1999.

Environment Act 1995.

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

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Firetex M69

PRODUCT HEALTH AND SAFETY DATA

Product Reference : Firetex M69
Date of Issue : 26/10/07

Issue : 9 REVISION
Page : 1 of 9

1. IDENTIFICATION OF PREPARATION AND OF COMPANY

Full name Firetex M69 Fast-Track Blast Primer

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 temporary protective primer for application by spray under intumescent coatings. Based on a two pack epoxy resin system with inorganic pigments and containing toluene and propan-2-ol solvents.

2. HAZARDS IDENTIFICATION

Base:

F	R11	Highly flammable.
Xi	R36/38	Irritating to eyes and skin.
Xi	R43	May cause sensitisation by skin contact.
Xn	R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
Repr. Cat. 3	R63	Possible risk of harm to the unborn child.
	R67	Vapours may cause drowsiness and dizziness.

Additive:

F	R11	Highly flammable.
Xi	R36/38	Irritating to eyes and skin.
Xi	R43	May cause sensitisation by skin contact.
Xn	R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
Repr. Cat. 3	R63	Possible risk of harm to the unborn child.
	R67	Vapours may cause drowsiness and dizziness.

3. 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
Base:				
Toluene	25-50%	Repr. Cat. 3 Xi Xn Xn	R67 R63 R38 R48/20 R65	203-625-9
Epoxy resin (Numbers Average Mol Wt >700)	10-25%	Xi Xi	R36/38 R43	
Propan-2-ol	2.5-10%	Xi	R67 R36	200-661-7
Additive:				
Toluene	>50%	Repr. Cat. 3 Xi Xn Xn	R67 R63 R38 R48/20 R65	203-625-9
Propan-2-ol	10-25%	Xi	R67 R36	200-661-7
Triethylenetetramine	<2.5%	C Xi Xn	R52 R53 R34 R43 R21	203-950-6
1,2,4-trimethylbenzene	<1%	N Xi Xn	R53 R51 R36/37/38 R20	202-436-9

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

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

Persons with a history of skin sensitisation problems should only be employed in processes in which this product is used under appropriate medical supervision.

This product contains a skin sensitiser. Hands should be inspected on a regular basis for any signs of skin damage or inflammation. If in doubt, advice should be taken from a competent occupational health practitioner on assessment and health surveillance of employees exposed to this product (the HSE's Employment Medical Advisory Service can advise on competency).

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. 180 m³/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	Base	Additive	Composite
20 litre pail	21.0 kg	5.0 kg	26.0 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 workplace 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	
1,2,4-trimethylbenzene	25ppm		
Propan-2-ol	400ppm	500ppm	
Toluene	50ppm	100ppm	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.

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.

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

The figures given below, unless otherwise stated, refer to the composite material.

Physical State	Liquid
Odour	Characteristic odour
Colour	Black
Density	1.1 g/cm ³
Viscosity - base	30 - 40 seconds B3 cup at 20°C
Viscosity - additive	37 - 45 seconds B2 cup at 20°C
Flash Point - base	12°C
Flash Point - additive	13°C
Volatile Organic Content	556 g/kg
Explosion Limit - lower	1.0%
Water Solubility	Immiscible
Boiling Point	82°C

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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.

Based on the properties of the epoxy constituent(s) and considering toxicological data on similar preparations, this preparation may be a skin sensitiser and an irritant. It contains low molecular epoxy constituents which are irritating to eyes, mucous membrane and skin. Repeated skin contact may lead to irritation and to sensitisation, possibly with cross-sensitisation to other epoxies. Skin contact with the preparation and exposure to spray mist and vapour should be avoided.

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 not classified as dangerous for the environment, but contains substances so classified. See Section 2 for details.

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

Substance	Property	Details
Triethylenetetramine	Mobility	A significant proportion will remain in soil after one day.
1,2,4-trimethylbenzene	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 safety 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

Base:

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

Additive:



UN Number	1263	Shipping Name	PAINT
Trem Card	30GF1-I+II	Technical Name	-
Pri. Haz. Class	3	Sub. Haz. Class	Packing Group II
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:-

Base:

	Toluene Epoxy resin (Numbers Average Mol Wt >700)
Highly Flammable	Highly flammable. Irritating to eyes and skin. May cause sensitisation by skin contact. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child. Vapours may cause drowsiness and dizziness. 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.. Wear suitable protective clothing and gloves In case of insufficient ventilation, wear suitable respiratory equipment.. Keep container tightly closed and in a well ventilated place
	
Harmful	

Additive:

	Toluene Triethylenetetramine
Highly Flammable	Highly flammable. Irritating to eyes and skin. May cause sensitisation by skin contact. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child. Vapours may cause drowsiness and dizziness. 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.. Wear suitable protective clothing and gloves In case of insufficient ventilation, wear suitable respiratory equipment.. Keep container tightly closed and in a well ventilated place
	
Harmful	

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 | Harmful by inhalation. |
| R21 | Harmful in contact with skin. |

R34	Causes burns.
R36	Irritating to eyes.
R36/37/38	Irritating to eyes, respiratory system and skin.
R36/38	Irritating to eyes and skin.
R38	Irritating to skin.
R43	May cause sensitisation by skin contact.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R51	Toxic to aquatic organisms.
R52	Harmful to aquatic organisms.
R53	May cause long-term adverse effects in the aquatic environment.
R63	Possible risk of harm to the unborn child.
R65	Harmful: may cause lung damage if swallowed.
R67	Vapours may cause drowsiness and dizziness.

Full details of the hazard classifications are as follows:-

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

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

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.
Pollution Prevention and Control Act 1999.
Environment Act 1995.
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

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Firetex M71V2

PRODUCT HEALTH AND SAFETY DATA

Product Reference : Firetex M71V2
Date of Issue : 08/05/07

Issue : 6 REVISION
Page : 1 of 9

ROULETTE

1. IDENTIFICATION OF PREPARATION AND OF COMPANY

Full name Firetex M71V2

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 sealercoat for spray, brush or roller application over the Firetex range of single pack intumescent coatings. Based on a synthetic resin system with inorganic and/or organic pigments and containing aromatic hydrocarbon solvent..

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.

BS4800 04E53 - Red

RAL 1004 - Gold Yellow

BS4800 08E51 - Golden Yellow

RAL 3000 - Fire Red

BS4800 12E51 - Lime Green

RAL 3016 - Coral Red

Pastel Orange - R5590

Yellow - R4107

RAL 1003 - Signal Yellow

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:				
1,2,4-trimethylbenzene	10-25%		R53	202-436-9
		N	R51	
		Xi	R36/37/38	
		Xn	R20	
Solvent Naphtha (petroleum), light aromatic	10-25%	Xn	R65	265-199-0
Propylbenzene	2.5-10%		R53	203-132-9
		N	R51	
		Xi	R37	
		Xn	R65	

For colours listed in Section 1 as containing lead chromate:				
1,2,4-trimethylbenzene	10-25%		R53	202-436-9
		N	R51	
		Xi	R36/37/38	
		Xn	R20	
Solvent Naphtha (petroleum), light aromatic	10-25%	Xn	R65	265-199-0
Lead Chromates	>1%		R33	231-846-0
			R53	
		Carc. Cat. 3	R40	
		N	R50	
		Repr. Cat. 1	R61	
		Repr. Cat. 3	R62	
Propylbenzene	2.5-10%		R53	203-132-9
		N	R51	
		Xi	R37	
		Xn	R65	

*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:

	R10	Flammable.
Xi	R36/37/38	Irritating to eyes, respiratory system and 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:

	R10	Flammable.
	R33	Danger of cumulative effects.
Xi	R36/37/38	Irritating to eyes, respiratory system and 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. 116 m³/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	6.5 - 7.0 kg
20 litre pail	26.0 - 28.0 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 250 litres of liquids with a flash point above 32°C but below 55°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 TWA ¹	15 min STEL ²	
1,2,4-trimethylbenzene	25ppm		
Lead Chromates	0.15mg/m ³		
	¹	Long term exposure limit - 8 hour time weighted average.	
	²	Short term exposure limit - 15 minute reference period.	

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	1.2 g/cm ³
Viscosity	3.0 - 4.5 poise BS3900:Part A7 at 25°C
Flash Point	38°C
Volatile Organic Content	460 g/Kg
Explosion Limit - lower	1.0%
Water Solubility	Immiscible
Boiling Point	155°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.

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
1,2,4-trimethylbenzene	No data available	
Propylbenzene	Mobility Persistence and Biodegradability	Low to medium soil mobility (1-3) Propylbenzene will probably biodegrade if released to soil or water.
Lead Chromates	No data available	

The Air Pollution Control requirements of regulations made under the Environmental Protection Act may apply to the use of this product.

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-III	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:

X	<p>Flammable. Irritating to eyes, respiratory system and skin. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. 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.</p>
Irritant	
	<p>This material and/or its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheet.</p>
Dangerous for the environment	

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For colours listed in Section 1 as containing lead chromate:

	Lead Chromates
☠	<p>Contains lead. Should not be used on surfaces that are liable to be chewed or sucked by children. Restricted to professional users. Flammable. Danger of cumulative effects. Irritating to eyes, respiratory system and skin. Limited evidence of a carcinogenic effect. May cause harm to the unborn child. Possible risk of impaired fertility. 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. Use appropriate containment to avoid environmental contamination. This material and/or its container must be disposed of as hazardous waste.</p>
Toxic	
	
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	Harmful by inhalation.
R33	Danger of cumulative effects.
R36/37/38	Irritating to eyes, respiratory system and skin.
R37	Irritating to respiratory system.
R40	Limited evidence of a carcinogenic effect.
R50	Very toxic to aquatic organisms.
R51	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.

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.
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.



SAFETY DATA SHEET

STANDARD THINNERS

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME STANDARD THINNERS

PRODUCT NO. EAT005, PTH025, PTH205, PTH500,
STM025, STT001, STT005, STT025,
STT450, STT500, THIN01, EST500,
THIN02, PRT500, FLE005, FLE205,
JCT005, JCT205, NCT005, NCT025,
PTH005

INTERNAL ID D

APPLICATION Additive for paint

SUPPLIER TETROSYL LIMITED
BEVIS GREEN WORKS
WALMERSLEY
BURY
BL9 6RE
0161 764 5981
0161 797 5899
info@tetrosyl.com

2 HAZARDS IDENTIFICATION

3 COMPOSITION/INFORMATION ON INGREDIENTS

4 FIRST-AID MEASURES

5 FIRE-FIGHTING MEASURES

6 ACCIDENTAL RELEASE MEASURES

7 HANDLING AND STORAGE

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

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8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Name	1-METHOXY-2-PROPANOL
Std	WEL
LT - ppm	100 ppm(Sk)
LT - mg/m3	375 mg/m3(Sk)
ST - ppm	150 ppm(Sk)
ST - ppm	560 mg/m3(Sk)
Name	ACETONE
Std	WEL
LT - ppm	500 ppm
LT - mg/m3	1210 mg/m3
ST - ppm	1500 ppm
ST - ppm	3620 mg/m3
Name	BUTYL ACETATE -norm
Std	WEL
LT - ppm	150 ppm
LT - mg/m3	724 mg/m3
ST - ppm	200 ppm
ST - ppm	966 mg/m3
Name	ETHYL ACETATE
Std	WEL
LT - ppm	200 ppm
LT - mg/m3	
ST - ppm	400 ppm
ST - ppm	
Name	IPS
Std	WEL
LT - ppm	400 ppm
LT - mg/m3	999 mg/m3
ST - ppm	500 ppm
ST - ppm	1250 mg/m3
Name	METHANOL
Std	WEL
LT - ppm	200 ppm(Sk)
LT - mg/m3	266 mg/m3(Sk)
ST - ppm	250 ppm(Sk)
ST - ppm	333 mg/m3(Sk)
Name	TOLUENE
Std	WEL
LT - ppm	50 ppm(Sk)
LT - mg/m3	191 mg/m3(Sk)
ST - ppm	150 ppm(Sk)
ST - ppm	574 mg/m3(Sk)

Name	XYLENE
Std	WEL
LT - ppm	50 ppm(Sk)
LT - mg/m3	220 mg/m3(Sk)
ST - ppm	100 ppm(Sk)
ST - ppm	441 mg/m3(Sk)

9 PHYSICAL AND CHEMICAL PROPERTIES

10 STABILITY AND REACTIVITY

11 TOXICOLOGICAL INFORMATION

12 ECOLOGICAL INFORMATION

13 DISPOSAL CONSIDERATIONS

14 TRANSPORT INFORMATION

GENERAL Full protective clothing should be worn when handling this product.

TRANSPORT LABELS

PROPER SHIPPING NAME	PAINT
ADR CLASS NO.	3
ADR CLASS	Class 3: Flammable liquids.
ADR PACK GROUP	II
HAZARD No. (ADR)	33
ADR LABEL NO.	3
CEVIC TEC(R) NO.	30GF1-I+II, 30GF1-sp

15 REGULATORY INFORMATION



Harmful



Highly Flammable

RISK PHRASES

- R11 Highly flammable.
- R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
- R36/38 Irritating to eyes and skin.
- R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
- R63 Possible risk of harm to the unborn child.
- R68/20/21/22 Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

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SAFETY PHRASES

- S9 Keep container in a well-ventilated place.
- S16 Keep away from sources of ignition - No smoking.
- S24/25 Avoid contact with skin and eyes.
- S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36/37 Wear suitable protective clothing and gloves.
- S51 Use only in well-ventilated areas.
- S60 This material and its container must be disposed of as hazardous waste.

16 OTHER INFORMATION

DISCLAIMER

The information provided in this document has been compiled on the basis of our current knowledge and is believed to be in accordance with the requirements of the Dangerous Substances Directive, Dangerous Preparations Directive and Safety Data Sheets Directive. The information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any particular conditions or process. The conditions and extent of storage and use of material are outside of our control and within the control of the possessor or user. Consequently it is the responsibility of the possessor or user to satisfy themselves as to the completeness of such information and the suitability of the material for their own particular circumstances, conditions or use.

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SAFETY DATA SHEET

Version 1.10
Revision Date 17.07.2005MSDS Number 300000003331
Print Date 10.02.2008

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Identification of the substance/preparation : COOGAR 15

Use of the Substance/Preparation : General Industrial

Company : AP Ireland Ltd
52 Broomhill Road
Tallaght
Postcode 0

Telephone : 1-4634242

Emergency telephone number : 1. Cylinder (01) 463 4200 / + 353 1 463 4200
2. Bulk (01) 463 4200 / + 353 1 463 4200
3. Medical (01) 832 6184 / + 353 1 832 6184

2. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation : Preparation

Components	EINECS / ELINCS	CAS Number	Concentration (Volume)	Classification
Oxygen	231-956-9	7782-44-7	2 %	O R 8
Carbon dioxide	204-696-9	124-38-9	15 %	
Argon	231-147-0	7440-37-1	83 %	

Refer to section 16 for full text of each relevant R-phrase.

Concentration is nominal. For the exact product composition, please refer to Air Products technical specifications.

3. HAZARDS IDENTIFICATION

Classification

Not a hazardous substance or preparation according to EC-directives 67/548/EEC or 1999/45/EC.
No EC labelling required.

Emergency Overview

High pressure gas.
Can cause rapid suffocation.
Self contained breathing apparatus (SCBA) may be required.

Potential Health Effects

Inhalation : Concentrations of 10% CO₂ or more can produce unconsciousness or death. In high concentrations may cause asphyxiation. Asphyxiation may bring about unconsciousness without warning and so rapidly that victim may be unable to protect themselves.

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- Eye contact : No adverse effect.
- Skin contact : No adverse effect.
- Ingestion : Ingestion is not considered a potential route of exposure.
- Chronic Health Hazard : Not applicable.
- Aggravated Medical Condition Symptoms : None.
- Symptoms : Shivering fit. Sweating. Blurred vision. Headache. Increased pulse rate. Shortness of breath. Rapid respiration. Exposure to oxygen deficient atmosphere may cause the following symptoms: Dizziness. Salivation. Nausea. Vomiting. Loss of mobility/consciousness.

Environmental Effects

Not harmful.

4. FIRST AID MEASURES

- General advice : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
- Eye contact : Not applicable.
- Skin contact : Not applicable.
- Ingestion : Ingestion is not considered a potential route of exposure.
- Inhalation : Remove to fresh air. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. In case of shortness of breath, give oxygen.

5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : All known extinguishing media can be used.
- Specific hazards : Upon exposure to intense heat or flame, cylinder will vent rapidly and or rupture violently. Product is nonflammable and does not support combustion. Move away from container and cool with water from a protected position. Keep containers and surroundings cool with water spray.
- Special protective equipment for fire-fighters : Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level. Evacuate personnel to safe areas. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Monitor oxygen level. Ventilate the area.
- Environmental precautions : Do not discharge into any place where its accumulation could be dangerous.

SAFETY DATA SHEET

Version 1.10
Revision Date 17.07.2005

MSDS Number 300000003331
Print Date 10.02.2008

Prevent further leakage or spillage if safe to do so.

- Methods for cleaning up : Ventilate the area.
- Additional advice : If possible, stop flow of product. Increase ventilation to the release area and monitor oxygen level. If leak is from cylinder or cylinder valve, call the Air Products emergency telephone number. If the leak is in the user's system, close the cylinder valve, safely vent the pressure, and purge with an inert gas before attempting repairs.

7. HANDLING AND STORAGE

Handling

Protect cylinders from physical damage; do not drag, roll, slide or drop. Do not allow storage area temperature to exceed 50°C (122°F). Only experienced and properly instructed persons should handle compressed gases. Before using the product, determine its identity by reading the label. Know and understand the properties and hazards of the product before use. When doubt exists as to the correct handling procedure for a particular gas, contact the supplier. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. Use an adjustable strap wrench to remove over-tight or rusted caps. Before connecting the container, check the complete gas system for suitability, particularly for pressure rating and materials. Before connecting the container for use, ensure that back feed from the system into the container is prevented. Ensure the complete gas system is compatible for pressure rating and materials of construction. Ensure the complete gas system has been checked for leaks before use. Employ suitable pressure regulating devices on all containers when the gas is being emitted to systems with lower pressure rating than that of the container. Never insert an object (e.g. wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing a leak to occur. Open valve slowly. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Close valve after each use and when empty. Replace outlet caps or plugs and container caps as soon as container is disconnected from equipment. Do not subject containers to abnormal mechanical shocks which may cause damage to their valve or safety devices. Never attempt to lift a cylinder by its valve protection cap or guard. Do not use containers as rollers or supports or for any other purpose than to contain the gas as supplied. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit. Do not smoke while handling product or cylinders. Never re-compress a gas or a gas mixture without first consulting the supplier. Never attempt to transfer gases from one cylinder/container to another. Always use backflow protective device in piping. When returning cylinder install valve outlet cap or plug leak tight. Never use direct flame or electrical heating devices to raise the pressure of a container. Containers should not be subjected to temperatures above 50°C (122°F). Prolonged periods of cold temperature below -30°C (-20°F) should be avoided.

Storage

Full containers should be stored so that oldest stock is used first. Containers should be stored in a purpose build compound which should be well ventilated, preferably in the open air. Stored containers should be periodically checked for general condition and leakage. Observe all regulations and local requirements regarding storage of containers. Protect containers stored in the open against rusting and extremes of weather. Containers should not be stored in conditions likely to encourage corrosion. Containers should be stored in the vertical position and properly secured to prevent toppling. The container valves should be tightly closed and where appropriate valve outlets should be capped or plugged. Container valve guards or caps should be in place. Keep containers tightly closed in a cool, well-ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Full and empty cylinders should be segregated. Do not allow storage temperature to exceed 50°C (122°F). Return empty containers in a timely manner.

Technical measures/Precautions

Containers should be segregated in the storage area according to the various categories (e.g. flammable, toxic,

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etc.) and in accordance with local regulations. Keep away from combustible material.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures

Provide natural or mechanical ventilation to prevent oxygen deficient atmospheres below 19.5% oxygen.

Personal protective equipment

- Respiratory protection : Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmosphere. Air purifying respirators will not provide protection. Users of breathing apparatus must be trained.
- Hand protection : Sturdy work gloves are recommended for handling cylinders. The breakthrough time of the selected glove(s) must be greater than the intended use period.
- Eye protection : Safety glasses recommended when handling cylinders.
- Skin and body protection : Safety shoes are recommended when handling cylinders.
- Special instructions for protection and hygiene : Ensure adequate ventilation, especially in confined areas.
- Remarks : Simple asphyxiant.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Form : Compressed gas.
- Color : Colorless gas
- Odor : None
- Molecular Weight : 40.46 g/mol
- Relative vapor density : 1.4 (air = 1) Heavier than air.
- Relative density : 2.2462 (water = 1)
- Density : 0.106 lb/ft³ (0.0017 g/cm³) at
Note: (as vapor)
- Specific Volume : 9.50 ft³/lb (0.5931 m³/kg)
- Boiling point/range : -114 °C
- Water solubility : Not known, but considered to have low solubility.

10. STABILITY AND REACTIVITY

- Stability : Stable under normal conditions.
- Hazardous decomposition products : None.

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11. TOXICOLOGICAL INFORMATION

Acute Health Hazard

- Ingestion : No data is available on the product itself.
Inhalation : No data is available on the product itself.
Skin. : No data is available on the product itself.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

- Aquatic toxicity : No data is available on the product itself.
Toxicity to other organisms : No data available.

Persistence and degradability

- Mobility : No data available.
Bioaccumulation : No data is available on the product itself.

Further information

When discharged in large quantities may contribute to the greenhouse effect.

13. DISPOSAL CONSIDERATIONS

- Waste from residues / unused products : Contact supplier if guidance is required. Return unused product in original cylinder to supplier.
Contaminated packaging : Return cylinder to supplier.

14. TRANSPORT INFORMATION

ADR

- Proper shipping name : COMPRESSED GAS, N.O.S. (Argon, Carbon dioxide)
Class : 2.2
UN/ID No. : UN1956
ADR/RID Hazard ID no. : 20

IATA

- Proper shipping name : Compressed gas, n.o.s. (Argon, Carbon dioxide)
Class : 2.2
UN/ID No. : UN1956

IMDG

- Proper shipping name : COMPRESSED GAS, N.O.S. (Argon, Carbon dioxide)
Class : 2.2
UN/ID No. : UN1956

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RID

Proper shipping name : COMPRESSED GAS, N.O.S. (Argon, Carbon dioxide)
Class : 2.2
UN/ID No. : UN1956

Further Information

Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.

15. REGULATORY INFORMATION

Labelling according to EEC Directive

R-phrase(s) : Not a hazardous substance or preparation according to EC-directives 67/548/EEC or 1999/45/EC.
No EC labelling required.

Country	Regulatory list	Notification
USA	TSCA	Included on Inventory.
EU	EINECS	Included on Inventory.
Canada	DSL	Included on Inventory.
Australia	AICS	Included on Inventory.
Japan	ENCS	Included on Inventory.
South Korea	ECL	Included on Inventory.
China	SEPA	Included on Inventory.
Philippines	PICCS	Included on Inventory.

16. OTHER INFORMATION

Ensure all national/local regulations are observed.

R-phrase(s) - Components

R 8 Contact with combustible material may cause fire.

Prepared by : Air Products and Chemicals, Inc. Global EH&S Product Safety Department

For additional information, please visit our Product Stewardship web site at
<http://www.airproducts.com/productstewardship/>

This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws.

Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Oxygen

Chemical formula : O₂

Synonyms : Oxygen, Oxygen gas, Gaseous Oxygen, GOX

Product Use Description : General Industrial

Company : Air Products and Chemicals, Inc
7201 Hamilton Blvd.
Allentown, PA 18195-1501

Telephone : 1-800-345-3148 Chemicals
1-800-752-1597 Gases and Electronic Chemicals

Emergency telephone number : 800-523-9374 USA
01-610-481-7711 International

2. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Concentration (Volume)
Oxygen	7782-44-7	100 %

Concentration is nominal. For the exact product composition, please refer to Air Products technical specifications.

3. HAZARDS IDENTIFICATION

Emergency Overview

High pressure, oxidizing gas.
Vigorously accelerates combustion.
Keep oil, grease, and combustibles away.
May react violently with combustible materials.

Potential Health Effects

Inhalation : Breathing 75% or more oxygen at atmospheric pressure for more than a few hours may cause nasal stuffiness, cough, sore throat, chest pain and breathing difficulty. Breathing pure oxygen under pressure may cause lung damage and also central nervous system effects.

Eye contact : No adverse effect.

Skin contact : No adverse effect.

Ingestion : Ingestion is not considered a potential route of exposure.

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Exposure Guidelines

Primary Routes of Entry : Inhalation
Target Organs : None known.

Aggravated Medical Condition

If oxygen is administered to persons with chronic obstructive pulmonary disease, raising the oxygen concentration in the blood depresses their breathing and raises their retained carbon dioxide to a dangerous level.

4. FIRST AID MEASURES

General advice : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

Eye contact : Seek medical advice.

Skin contact : Wash with water and soap as a precaution.

Ingestion : Ingestion is not considered a potential route of exposure.

Inhalation : Consult a physician after significant exposure. Move to fresh air. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media : All known extinguishing media can be used.

Specific hazards : Most cylinders are designed to vent contents when exposed to elevated temperatures.

Further information : Some materials that are noncombustible in air will burn in the presence of an oxygen enriched atmosphere (greater than 23%). Fire resistant clothing may burn and offer no protection in oxygen rich atmospheres.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Clothing exposed to high concentrations may retain oxygen 30 minutes or longer and become a potential fire hazard. Stay away from ignition sources. Evacuate personnel to safe areas. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ventilate the area.

Environmental precautions : Do not discharge into any place where its accumulation could be dangerous. Prevent further leakage or spillage if safe to do so.

Methods for cleaning up : Ventilate the area.

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Additional advice : If possible, stop flow of product. Increase ventilation to the release area and monitor concentrations. If leak is from cylinder or cylinder valve, call the Air Products emergency telephone number. If the leak is in the user's system, close the cylinder valve, safely vent the pressure, and purge with an inert gas before attempting repairs.

7. HANDLING AND STORAGE

Handling

All gauges, valves, regulators, piping and equipment to be used in oxygen service must be cleaned for oxygen service. Oxygen is not to be used as a substitute for compressed air. Never use an oxygen jet for cleaning purposes of any sort, especially clothing, as it increases the likelihood of an engulfing fire. Only experienced and properly instructed persons should handle compressed gases. Protect cylinders from physical damage; do not drag, roll, slide or drop. Do not allow storage area temperature to exceed 50°C (122°F). Before using the product, determine its identity by reading the label. Know and understand the properties and hazards of the product before use. When doubt exists as to the correct handling procedure for a particular gas, contact the supplier. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. Use an adjustable strap wrench to remove over-tight or rusted caps. Before connecting the container, check the complete gas system for suitability, particularly for pressure rating and materials. Before connecting the container for use, ensure that back feed from the system into the container is prevented. Ensure the complete gas system is compatible for pressure rating and materials of construction. Ensure the complete gas system has been checked for leaks before use. Employ suitable pressure regulating devices on all containers when the gas is being emitted to systems with lower pressure rating than that of the container. Never insert an object (e.g. wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing a leak to occur. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Do not use containers as rollers or supports or for any other purpose than to contain the gas as supplied. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit. Do not smoke while handling product or cylinders. Never re-compress a gas or a gas mixture without first consulting the supplier. Never attempt to transfer gases from one cylinder/container to another. Always use backflow protective device in piping. When returning cylinder install valve outlet cap or plug leak tight. Never permit oil, grease, or other readily combustible substances to come into contact with valves or containers containing oxygen or other oxidants. Do not use rapidly opening valves (e.g. ball valves). Open valve slowly to avoid pressure shock. Never pressurize the entire system at once. Use only with equipment cleaned for oxygen service and rated for cylinder pressure. Never use direct flame or electrical heating devices to raise the pressure of a container. Containers should not be subjected to temperatures above 50°C (122°F). Prolonged periods of cold temperature below -30°C (-20°F) should be avoided.

Storage

Containers should be stored in a purpose build compound which should be well ventilated, preferably in the open air. Full containers should be stored so that oldest stock is used first. Stored containers should be periodically checked for general condition and leakage. Observe all regulations and local requirements regarding storage of containers. Protect containers stored in the open against rusting and extremes of weather. Containers should not be stored in conditions likely to encourage corrosion. Containers should be stored in the vertical position and properly secured to prevent toppling. The container valves should be tightly closed and where appropriate valve outlets should be capped or plugged. Container valve guards or caps should be in place. Keep containers tightly closed in a cool, well-ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Full and empty cylinders should be segregated. Do not allow storage temperature to exceed 50°C (122°F). Display "No Smoking or Open Flames" signs in the storage

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areas. Return empty containers in a timely manner. Flammable storage areas should be separated from oxygen and other oxidizers by a minimum distance of 20 ft. (6.1 m.) or by a barrier of non-combustible material at least 5 ft. (1.5 m.) high, having a fire resistance rating of at least 1/2 hour.

Technical measures/Precautions

Containers should be segregated in the storage area according to the various categories (e.g. flammable, toxic, etc.) and in accordance with local regulations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal protective equipment

- Respiratory protection : Users of breathing apparatus must be trained.
- Hand protection : Sturdy work gloves are recommended for handling cylinders. The breakthrough time of the selected glove(s) must be greater than the intended use period.
- Eye protection : Safety glasses recommended when handling cylinders.
- Skin and body protection : Safety shoes are recommended when handling cylinders.
- Special instructions for protection and hygiene : Ensure adequate ventilation, especially in confined areas. Gloves must be clean and free of oil and grease.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Form : Compressed gas.
- Color : Colorless gas
- Odor : No odor warning properties.
- Molecular Weight : 32 g/mol
- Relative vapor density : 1.1 (air = 1)
- Relative density : 1.1 (water = 1)
- Density : 0.081 lb/ft³ (0.0013 g/cm³) at 70 °F (21 °C)
Note: (as vapor)
- Specific Volume : 12.08 ft³/lb (0.7540 m³/kg) at 70 °F (21 °C)
- Boiling point/range : -297 °F (-183 °C)
- Critical temperature : -180 °F (-118 °C)
- Melting point/range : -362 °F (-219 °C)

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Water solubility : 0.039 g/l

10. STABILITY AND REACTIVITY

Stability : Stable under normal conditions.

Materials to avoid : Flammable materials.
Organic materials.
Avoid oil, grease and all other combustible materials.

11. TOXICOLOGICAL INFORMATION

Acute Health Hazard

Ingestion : No data is available on the product itself.

Inhalation : No data is available on the product itself.

Skin. : No data is available on the product itself.

Chronic Health Hazard

Premature infants exposed to high oxygen concentrations may suffer delayed retinal damage that can progress to retinal detachment and blindness. Retinal damage may also occur in adults exposed to 100% oxygen for extended periods (24 to 48 hr). At two or more atmospheres, central nervous system (CNS) toxicity occurs. Symptoms include nausea, vomiting, dizziness or vertigo, muscle twitching, vision changes and loss of consciousness and generalized seizures. At three atmospheres, CNS toxicity occurs in less than two hours and at six atmospheres in only a few minutes.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Aquatic toxicity : No data is available on the product itself.

Toxicity to other organisms : No data available.

Persistence and degradability

Mobility : No data available.

Bioaccumulation : No data is available on the product itself.

Further information

No ecological damage caused by this product.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products : Return unused product in original cylinder to supplier. Contact supplier if guidance is required.

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Contaminated packaging : Return cylinder to supplier.

14. TRANSPORT INFORMATION

CFR

Proper shipping name : Oxygen, compressed
Class : 2.2 (5.1)
UN/ID No. : UN1072

IATA

Proper shipping name : Oxygen, compressed
Class : 2.2 (5.1)
UN/ID No. : UN1072

IMDG

Proper shipping name : OXYGEN, COMPRESSED
Class : 2.2 (5.1)
UN/ID No. : UN1072

CTC

Proper shipping name : OXYGEN, COMPRESSED
Class : 2.2 (5.1)
UN/ID No. : UN1072

Further Information

Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard (29 CFR 1910.1200) Hazard Class(es)
Oxidizer. Compressed Gas.

Country	Regulatory list	Notification
USA	TSCA	Included on Inventory.
EU	EINECS	Included on Inventory.
Canada	DSL	Included on Inventory.
Australia	AICS	Included on Inventory.
South Korea	ECL	Included on Inventory.
China	SEPA	Included on Inventory.
Philippines	PICCS	Included on Inventory.
Japan	ENCS	Included on Inventory.

EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification:
Fire Hazard. Sudden Release of Pressure Hazard.

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US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other harm.

16. OTHER INFORMATION

NFPA Rating

Health	:	0
Fire	:	0
Instability	:	0
Special	:	OX

HMIS Rating

Health	:	0
Flammability	:	0
Physical hazard	:	3

Prepared by : Air Products and Chemicals, Inc. Global EH&S Product Safety Department

For additional information, please visit our Product Stewardship web site at <http://www.airproducts.com/productstewardship/>

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SAFETY DATA SHEET

Version 1.16
Revision Date 08.06.2007MSDS Number 300000000002
Print Date 10.02.2008

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Identification of the substance/preparation : Acetylene

Chemical formula : C₂H₂

Synonyms : Acetylene (dissolved), Ethyne, welding gas

Use of the Substance/Preparation : General Industrial

Company : Air Products Ireland Ltd
18H Rosemount Business Park
Ballycoolin Dublin 11
Ireland
Tel No. + 353 (1) 2421836

Telephone : 1-4634242

Emergency telephone number : 1. Cylinder (01) 463 4200 / + 353 1 463 4200
2. Bulk (01) 463 4200 / + 353 1 463 4200
3. Medical (01) 832 6184 / + 353 1 832 6184

2. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation : Substance

Components	EINECS / ELINCS	CAS Number	Concentration (Volume)	Classification
Acetylene	200-816-9	74-86-2	100 %	F+ R 5 ; R 6 ; R12

Refer to section 16 for full text of each relevant R-phrase.

Concentration is nominal. For the exact product composition, please refer to Air Products technical specifications.

3. HAZARDS IDENTIFICATION

Classification

R 5 Heating may cause an explosion.
R 6 Explosive with or without contact with air.
R12 Extremely flammable.
Dispose of cylinder via gas supplier only, inner porous material may contain asbestos.

Emergency Overview

High pressure gas.
Can cause rapid suffocation.
Extremely flammable.
May form explosive mixtures in air.
Immediate fire and explosion hazard exists when mixed with air at concentrations exceeding the lower flammability limit (LFL).

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High concentrations that can cause rapid suffocation are within the flammable range and should not be entered.
Avoid breathing gas.
Self contained breathing apparatus (SCBA) may be required.

Potential Health Effects

- Inhalation : May cause anesthetic effects. In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Asphyxiation may bring about unconsciousness without warning and so rapidly that victim may be unable to protect themselves.
- Skin contact : No adverse effect.
- Ingestion : Ingestion is not considered a potential route of exposure.
- Chronic Health Hazard : Not applicable.
- Symptoms : Exposure to oxygen deficient atmosphere may cause the following symptoms: Dizziness. Salivation. Nausea. Vomiting. Loss of mobility/consciousness.

Environmental Effects

Not harmful.

4. FIRST AID MEASURES

- General advice : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
- Ingestion : Ingestion is not considered a potential route of exposure.
- Inhalation : In case of shortness of breath, give oxygen. Move to fresh air. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Seek medical advice.

5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : All known extinguishing media can be used.
- Specific hazards : Upon exposure to intense heat or flame, cylinder will vent rapidly and or rupture violently. Keep containers and surroundings cool with water spray. Extinguish fire only if gas flow can be stopped. If possible, shut off the source of gas and allow the fire to burn itself out. Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire. Move away from container and cool with water from a protected position. Keep adjacent cylinders cool by spraying with large amounts of water until fire burns itself out. If flames are accidentally extinguished, explosive re-ignition may occur; therefore, appropriate measures should be taken (e.g. total evacuation to protect persons from cylinder fragments and toxic fumes should a rupture occur).
- Special protective equipment for fire-fighters : Wear self contained breathing apparatus for fire fighting if necessary.

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6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Evacuate personnel to safe areas. Remove all sources of ignition. Never enter a confined space or other area where the flammable gas concentration is greater the 10% of its lower flammable limit. Ventilate the area.
- Environmental precautions : Do not discharge into any place where its accumulation could be dangerous. Should not be released into the environment. Prevent further leakage or spillage if safe to do so.
- Methods for cleaning up : Ventilate the area. Approach suspected leak areas with caution.
- Additional advice : Increase ventilation to the release area and monitor concentrations. If leak is from cylinder or cylinder valve, call the Air Products emergency telephone number. If the leak is in the user's system, close the cylinder valve, safely vent the pressure, and purge with an inert gas before attempting repairs.

7. HANDLING AND STORAGE

Handling

Acetylene cylinders are heavier than other cylinders because they are packed with a porous filler material and acetone. Never use acetylene in excess of 15 psig pressure. Protect cylinders from physical damage; do not drag, roll, slide or drop. Do not allow storage area temperature to exceed 50°C (122°F). Only experienced and properly instructed persons should handle compressed gases. Before using the product, determine its identity by reading the label. Know and understand the properties and hazards of the product before use. When doubt exists as to the correct handling procedure for a particular gas, contact the supplier. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. Use an adjustable strap wrench to remove over-tight or rusted caps. Before connecting the container, check the complete gas system for suitability, particularly for pressure rating and materials. Before connecting the container for use, ensure that back feed from the system into the container is prevented. Ensure the complete gas system is compatible for pressure rating and materials of construction. Ensure the complete gas system has been checked for leaks before use. Employ suitable pressure regulating devices on all containers when the gas is being emitted to systems with lower pressure rating than that of the container. Never insert an object (e.g. wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing a leak to occur. Open valve slowly. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Close valve after each use and when empty. Replace outlet caps or plugs and container caps as soon as container is disconnected from equipment. Do not subject containers to abnormal mechanical shocks which may cause damage to their valve or safety devices. Never attempt to lift a cylinder by its valve protection cap or guard. Do not use containers as rollers or supports or for any other purpose than to contain the gas as supplied. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit. Do not smoke while handling product or cylinders. Never re-compress a gas or a gas mixture without first consulting the supplier. Never attempt to transfer gases from one cylinder/container to another. Always use backflow protective device in piping. Purge air from system before introducing gas. When returning cylinder install valve outlet cap or plug leak tight. Never use direct flame or electrical heating devices to raise the pressure of a container. Containers should not be subjected to temperatures above 50°C (122°F). Prolonged periods of cold temperature below -30°C (-20°F) should be avoided. Ensure equipment is adequately earthed.

Storage

Containers should be stored in a purpose build compound which should be well ventilated, preferably in the open air. Observe all regulations and local requirements regarding storage of containers. Stored containers should be periodically checked for general condition and leakage. Protect containers stored in the open against rusting and extremes of weather. Containers should not be stored in conditions likely to encourage corrosion.

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Containers should be stored in the vertical position and properly secured to prevent toppling. The container valves should be tightly closed and where appropriate valve outlets should be capped or plugged. Container valve guards or caps should be in place. Keep containers tightly closed in a cool, well-ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Full and empty cylinders should be segregated. Do not allow storage temperature to exceed 50°C (122°F). Smoking should be prohibited within storage areas or while handling product or containers. Display "No Smoking or Open Flames" signs in the storage areas. The amounts of flammable or toxic gases in storage should be kept to a minimum. Return empty containers in a timely manner.

Technical measures/Precautions

Containers should be segregated in the storage area according to the various categories (e.g. flammable, toxic, etc.) and in accordance with local regulations. Keep away from combustible material. All electrical equipment in the storage areas should be compatible with flammable materials stored. Containers containing flammable gases should be stored away from other combustible materials. Where necessary containers containing oxygen and oxidants should be separated from flammable gases by a fire resistant partition.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures

Provide natural or explosion-proof ventilation that is adequate to ensure flammable gas does not reach its lower explosive limit.

Personal protective equipment

- Respiratory protection : High concentrations that can cause rapid suffocation are within the flammable range and should not be entered.
- Hand protection : Sturdy work gloves are recommended for handling cylinders. The breakthrough time of the selected glove(s) must be greater than the intended use period.
- Eye protection : Safety glasses recommended when handling cylinders.
- Skin and body protection : Safety shoes are recommended when handling cylinders. Wear as appropriate:
Flame retardant protective clothing.
- Special instructions for protection and hygiene : Ensure adequate ventilation, especially in confined areas.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Form : Dissolved gas.
- Color : Colorless gas
- Odor : Poor warning properties at low concentrations. Garlic-like.
- Molecular Weight : 26.04 g/mol
- Relative vapor density : 0.899 (air = 1)
- Vapor pressure : 638.14 psia (44.00 bar) at 20 °C
- Density : 0.069 lb/ft³ (0.0011 g/cm³) at 70 °F (21 °C)

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Note: (as vapor)

Specific Volume	: 14.77 ft ³ /lb (0.9221 m ³ /kg) at 70 °F (21 °C)
Boiling point/range	: -120 °F (-84.2 °C)
Critical temperature	: 96 °F (35.6 °C)
Melting point/range	: -80.8 °C
Flash point	: -18 °C
Autoignition temperature	: 325 °C
Upper flammability limit	: 83 %(V)
Lower flammability limit	: 2.4 %(V)
Water solubility	: 1.185 g/l

10. STABILITY AND REACTIVITY

Stability	: Stable under normal conditions.
Conditions to avoid	: Cylinders should not be exposed to sudden shock or sources of heat. Heat, flames and sparks. May form explosive mixtures with air and oxidizing agents.
Materials to avoid	: Under certain conditions, acetylene can react with copper, silver, and mercury to form acetylides, compounds which can act as ignition sources. Brasses containing less than 65% copper in the alloy and certain nickel alloys are suitable for acetylene service under normal conditions. Acetylene can react explosively when combined with oxygen and other oxidizers including all halogens and halogen compounds. The presence of moisture, certain acids, or alkaline materials tends to enhance the formation of copper acetylides. Under certain conditions, acetylene can react with copper, silver, and mercury to form acetylides, compounds which can act as ignition sources. Brasses containing less than 65% copper in the alloy and certain nickel alloys are suitable for acetylene service under normal conditions. Acetylene can react explosively when combined with oxygen and other oxidizers including all halogens and halogen compounds. The presence of moisture, certain acids, or alkaline materials tends to enhance the formation of copper acetylides. Oxygen. Oxidizing agents.
Hazardous reactions	: Unstable. Stable as shipped. Do not use at pressure above 15 psig.

11. TOXICOLOGICAL INFORMATION

Acute Health Hazard

Ingestion	: No data is available on the product itself.
Inhalation	: No data is available on the product itself.
Skin.	: No data is available on the product itself.

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12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Aquatic toxicity : No data is available on the product itself.

Toxicity to other organisms : No data available.

Persistence and degradability

Mobility : No data available.

Bioaccumulation : No data is available on the product itself.

Further information

This product has no known eco-toxicological effects.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products : Contact supplier if guidance is required. Return unused product in original cylinder to supplier. Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor.

Contaminated packaging : Return cylinder to supplier.

14. TRANSPORT INFORMATION

ADR

Proper shipping name : ACETYLENE, DISSOLVED
Class : 2.1
UN/ID No. : UN1001
ADR/RID Hazard ID no. : 239

IATA

Proper shipping name : Acetylene, dissolved
Class : 2.1
UN/ID No. : UN1001

IMDG

Proper shipping name : ACETYLENE, DISSOLVED
Class : 2.1
UN/ID No. : UN1001

RID

Proper shipping name : ACETYLENE, DISSOLVED
Class : 2.1
UN/ID No. : UN1001

Further Information

Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an

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emergency. Note: If regulated as a hazardous material (Dangerous Good) in transportation, please refer to shipping papers or contact Air Products for complete shipping description information.

15. REGULATORY INFORMATION

Labelling according to EEC Directive

Number in Annex I of Dir : 601-015-00-0
67/548

Hazard symbol : F+ Extremely flammable

R-phrase(s) : R 5 Heating may cause an explosion.
R 6 Explosive with or without contact with air.
R12 Extremely flammable.
Dispose of cylinder via gas supplier only, inner porous material may contain asbestos.

S-phrase(s) : S 9 Keep container in a well-ventilated place.
S16 Keep away from sources of ignition. - No smoking.
S33 Take precautionary measures against static discharges.

S-phrase(s) :

Country	Regulatory list	Notification
USA	TSCA	Included on Inventory.
EU	EINECS	Included on Inventory.
Canada	DSL	Included on Inventory.
Australia	AICS	Included on Inventory.
Japan	ENCS	Included on Inventory.
South Korea	ECL	Included on Inventory.
China	SEPA	Included on Inventory.
Philippines	PICCS	Included on Inventory.

WGK Identification : Not water endangering.
Number:

16. OTHER INFORMATION

Ensure all national/local regulations are observed.

R-phrase(s) - Components

R 5 Heating may cause an explosion.
R 6 Explosive with or without contact with air.
R12 Extremely flammable.

Prepared by : Air Products and Chemicals, Inc. Global EH&S Product Safety Department

For additional information, please visit our Product Stewardship web site at
<http://www.airproducts.com/productstewardship/>

This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws.

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Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

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1. Identification of the substance or preparation and of the supplier

Company Identification: Calor Teoranta, Long Mile Road, Dublin 12.

Telephone Numbers. Dublin 01-4505000 (During Business Hours)
 Whitegate 021-4661269 (During Business Hours)
 Tivoli 021-4502854 (During Business Hours)

Emergency Telephone Numbers:
 (Outside Business Hours) Dublin 01-2694800

Company Identification: Calor Gas Northern Ireland Limited, Airport Road West, Sydenham, Belfast BT3 9EE.

Telephone Numbers: 028-904 55588

Emergency Telephone Numbers: 028-9045 8466 (During Business Hours)
 028-9044 2422 (Outside Business Hours)

Product: **Liquefied Propane Gas.**

Including products marketed as: **Commercial Propane**

Recommended Uses:

Liquefied Propane Gas is a multi-purpose product intended for uses including:

- Fuels for equipment which has been specifically designed to run on commercial propane;
- Internal combustion engine fuel;
- Feedstock for the petrochemical industry

2. Composition – Information on Ingredients

Chemical Composition

Liquefied Propane Gas consisting predominantly of C₃ Hydrocarbons (propane and propene). A small quantity (typically <50ppm) of ethyl mercaptan or similar odorizing agent is commonly added to assist in the leak detection. Contains <0.1% 1,3 Butadiene.

Hazardous Components.

Hydrocarbon, C_{3,4} rich, petroleum distillate. EINECS No. 601-003-00-5
 CAS NUMBER 74-98-6, F+, R12 Extremely Flammable >90%.

3. Hazards Identification

- Extremely Flammable (F+).
- Readily forms an explosive air-vapour mixture at ambient temperature.
- Vapour is heavier than air and may travel to remote sources of ignition (e.g. along drainage systems, into basements etc.).
- Liquid leaks generate large volumes of vapour (approximately 250 times the original liquid volume).
- At the lower explosive limit this will produce a flammable mixture of approximately 13,000 times the original liquid volume.
- Cold burns (frostbite) will result from skin/eye contact with liquid.
- Liquid release or vapour pressure jets present a risk of serious damage to the eyes.
- Abuse involving wilful inhalation of very high concentrations of vapour, even for short periods, can produce unconsciousness or might prove fatal. Inhalation may cause irritation to the nose and throat, headache, nausea, vomiting, dizziness and drowsiness. In poorly ventilated or confined spaces, unconsciousness or asphyxiation may result.

4. First Aid Measures

Eyes

Immediately flush eyes with plenty of cool water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Get immediate medical attention.

Skin

In case of cold burns, immediately place affected area in tepid to warm water and keep immersed until circulation returns.

Ingestion

No emergency care anticipated, the material is a gas at standard temperature and pressure.

Inhalation

Immediately remove patient to uncontaminated area. Keep warm and at rest. If breathing has stopped or shows signs of failing, commence artificial respiration. Summon immediate medical attention.

Other Requirements

Severe inhalation over exposure to this product may sensitise the heart to catecholamine – induced arrhythmias. Do not administer catecholamines to an over exposed person.

5. Fire-Fighting Measures

These materials are delivered, stored and used at temperatures above their flash point. Avoid all naked flames, sparks, cigarettes, etc.

- ***In Case of Fire, Immediately Alert the Fire Brigade.***
- Ensure an escape path is always available from the fire.
- If gas has ignited, do not attempt to extinguish but, if safe to do so, stop gas flow and allow to burn out.
- Use water spray to cool heat-exposed containers and to protect surrounding areas and personnel effecting shut-off.
- If it is not possible to stop a leak of LPG fuelling a fire it is recommended that the fire should not be extinguished. An exception to this is where the fire is impinging on the vapour space of an LPG cylinder or tank to such a degree that the metal may be weakened and there is a danger of creating a “**Boiling Liquid Expanding Vapour Explosion (BLEVE)**”. Pressurised containers are liable to explode violently when subjected to high temperatures. In such a situation it is preferable to extinguish the fire to avoid a vessel failing and becoming a missile.

Large fires

- Large fires should **only** be fought by the **Fire Brigade**.
- Product flow must be stopped and container cooled by water spray.
- Water fog should be used to assist approach to source of the fire.
- DO NOT USE WATER JETS.

Small Fire

- Dry Powder
- DO NOT USE WATER OR FOAM
- Fires in confined spaces, should be dealt with by trained personnel, wearing approved breathing apparatus.

Combustion Products.

- See Stability and Reactivity, Section 10 of this Safety Data Sheet.

6. Accidental Release Measures

Immediate Emergency Action;

- Clear people away from the area to a safe place;
- Do not operate electrical equipment unless flameproof;
- Summon aid of emergency services;
- Treat or refer casualties if necessary;

Further Action - Fire

- Refer to Section 5

Further Action – Spillage

If Safe

- Extinguish naked lights, eg cigarettes – **AVOID MAKING SPARKS;**
- Position fire fighting equipment;
- Try to stop the flow of liquid product;

Note

- Vapour may collect in confined spaces, ensure adequate ventilation and check that a safe breathable atmosphere is present before entry.
- Leaks through defective cylinder valves may be stopped by applying the sealing cap on the valve outlet.

7. Handling and Storage

Handling.

- LPG is a gas at atmospheric pressure and ambient temperature. It is contained in specially designed pressure vessels (tanks and cylinders) and used in specially designed installations and appliances. Consequently, it is only released through control valves for immediate combustion in the gas appliance. Advice on the consequences of accidental release is dealt with in Sections 3, 4, 5 and 6 above.
- The risk of accidental release of LPG is greatest when making or breaking LPG connections, or when liquid filling of LPG tanks or cylinders (e.g. automotive or FLT) is in progress. Particular attention must be given to following the recommended procedure to ensure the safe connection and disconnection of couplings.
- It is essential not to fill LPG tanks or cylinders beyond the recommended maximum liquid level.
- Cylinders must be kept upright during handling, transport, storage and use.
- Cylinders must not be dropped, allowed to topple on their side or rolled.
- Valves of cylinders not in use should always be closed and fitted with the sealing caps on the valve outlets.
- When installing or removing cylinders in the LPG system, procedures and recommendations by Calor and in the HSA/ILPGA and HSE/LPGA publications should be followed (See also Section 16).
- As a condition of supplying tanks and/or cylinders and commissioning the system, additions, alterations or repairs to LPG systems and installations should only be carried out by competent persons and should not be undertaken without the approval of Calor Teoranta /Calor Gas Northern Ireland Limited.
- Subject to complying with the operating instructions, tanks, cylinders and their associated valves and fittings which are the property of Calor Teoranta/Calor Gas Northern Ireland Limited must not be interfered with in any way.
- The siting of LPG tanks and cylinder/storage is subject to Regulations. Consequently, changes to storage location and layout should not be made without the approval of Calor Teoranta/ Calor Gas Northern Ireland Limited.
- When handling cylinders protective gloves, footwear and headgear should be worn (See Section 8).
- When filling tanks and cylinders protective gloves and suitable goggles should be worn (See Section 9).

Storage

- The storage of LPG is regulated (See Section 15).
- The storage in bulk tanks should comply with Irish Standard 3216 / COP. No. 1 (LPGA).
- The storage in cylinders should comply with Irish Standard 3213 / COP. No. 7 (LPGA).
- Installations (including relevant storage) should be in accordance with codes and standards (See Section 16).

8. Exposure Controls/Personal Protection

Exposure Limit Values

The following limits are taken from The Health and Safety Executive's Guidance Note EH40 Occupational Exposure Limits 2002.

Occupational Exposure Limits

	Long-term exposure limit (ppm) (8hr.TWA)	Short-term exposure limit (ppm) (10min. period)
Liquefied Petroleum Gas*	1000	1250

- Calor Liquefied Propane Gas is not subject to a specific OEL. However, as a Liquefied Petroleum Gas the guideline in above table should be applied

* Pure Propane is identified as a simple asphyxiant.

Recommended Protective Clothing

Protective Clothing

- Wear suitable gloves and overalls to prevent cold burns and frostbite (Neoprene or LPG resistant Gauntlet Glove).
- In filling operations wear protective clothing including impervious gloves, safety goggles or face shield to EN 166, 167 & 168.
- When handling cylinders wear protective footwear to EN345.

Respiratory Protection

- If operations are such that significant exposure to vapour may be anticipated, then suitable approved respiratory equipment should be worn.
- The use of respiratory equipment must be strictly in accordance with the manufacturers' instructions and any statutory requirements governing its selection and use.
- All wearers of respiratory protection must be trained in its use. The nature of the atmosphere and the working environment will determine the protection required. Equipment must be to the relevant EN and this may be determined by reference to BS4275: *Recommendations for the selection, use and maintenance of respiratory protective equipment.*

9. Physical and Chemical

Appearance;	Colourless liquefied gas
Odour;	Odourless, odorant added to provide a distinctive smell
Boiling Point;	-42 °C
Flash Point;	-104 °C (PMCC)
Flammability Limits	2% to 11% in air
Auto-ignition Temperature	460 – 580 °C
Vapour Pressure	7.5 bar at 15 °C
Specific Gravity of Liquid	0.512 at 15 °C (Water = 1.0)
Specific Gravity of Vapour	1.5 at 15 °C (Air = 1.0)

10. Stability and Reactivity

- Calor Liquefied Propane Gas is stable at ambient temperatures. Hazardous polymerization will not occur.

Conditions to Avoid

- Sources of ignition.
- Storage at above 50 Deg. C.

Materials to Avoid

- Strong oxidizing agents (e.g. chlorates, which may be used in agriculture, peroxides).

Decomposition Products

The substances arising from the thermal decomposition of these products will largely depend upon the conditions bringing about decomposition. The following hazardous substances may be expected from normal combustion.

- Carbon Dioxide;
- Carbon Monoxide (if there is insufficient air for complete combustion).

11. Toxicological Information

Eyes Contact

- Contact with liquid CALOR LIQUEFIED PROPANE GAS will present a risk of serious damage to the eyes.

Skin Contact

- Contact with liquid CALOR LIQUEFIED PROPANE GAS will cause cold burns and frostbite to the skin.

Inhalation

- Low vapour concentrations may cause nausea, dizziness, headaches and drowsiness.
- May have a narcotic effect if high concentrations of vapour are inhaled. High vapour concentrations may produce symptoms of oxygen deficiency which, coupled with central nervous system depression, may lead to rapid loss of consciousness.

Abuse

- Under normal conditions of use the product is not hazardous; however, abuse involving deliberate inhalation of very high concentrations of vapour, even for short periods can produce unconsciousness and/or result in a sudden fatality.

Carcinogenicity

- No Known behaviour.

Mutagenicity

- No Known behaviour.

Teratogenicity

- No Known behaviour.

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12. Ecological Information

Ecotoxicity

- No known ecological damage is caused by this product.

Air

- Calor Liquefied Propane Gases are mixtures of volatile components which when released to air will react rapidly with hydroxyl radicals and ozone to give carbon dioxide and water.

Water

- If released to water the product will rapidly evaporate.

Soil

- If released to soil the product will rapidly evaporate.

Mobility

- Spillages are unlikely to penetrate the soil.

Persistence and degradability

- Unlikely to cause long term adverse effects in the environment.

Bio-accumulative potential

- This material is not expected to bio-accumulate.

Aquatic toxicity

- Unlikely to cause long term effects in the aquatic environment.

13. Disposal Consideration

- Do not interfere with LPG tanks or cylinders.
- Do not discharge the LPG to atmosphere.
- Return all cylinders the property of Calor Teoranta/Calor Gas Northern Ireland Limited to Calor Teoranta/Calor Gas Northern Ireland Limited or to one of its dealers.
- Tanks which are the property of Calor Teoranta/Calor Gas Northern Ireland Limited should only be uplifted for disposal by Calor Teoranta/Calor Gas Northern Ireland Limited.
- Tanks and cylinders which are owned by other suppliers should be returned to or uplifted by the supplier.
- Tanks and cylinders which are not owned by an LPG supplier should be disposed of after consultation with the original supplier.
- Nominally empty containers represent a fire hazard as they may contain flammable product residues and vapour. Never incinerate, crush, weld, solder or braze empty containers.

14. Transport Information

Regulations governing transport of LPG are given in Section 15. These Regulations also implement EC Directives and other International Agreements relating to the transport of LPG. These Regulations cover the duties of Consignors, Carriers and Drivers and the specific equipment required on vehicles.

Dangerous for Conveyance

- UN Proper Shipping Name: Propane
- UN Number: 1978
- Symbol: Flammable Gas
- Packing Group: Special Containers
- ADR/RID Proper Shipping Name: Propane
- Substance Identification No.: 1978
- Class: 2
- Classification Code: 2F
- Label: 2.1
- IATA/ICAO Hazard Class: 2.1 (Forbidden on passenger aircraft)
- IMO Hazard Class: 2.1
- Marine Pollutant: No
- Hazard Identification No.: 23
- Hazchem Code: 2WE

15. Regulatory Information

- This material has been classified according to the requirements of the Dangerous Substances Directive 67/548/EEC as last amended by the 28th Adaptation to Technical Progress, Directive 1999/45/EEC as amended by the 1st Adaptation to Technical Progress.

Dangerous for supply

Product Label

Extremely Flammable

Contains: Propane

Symbol: Flame



Risk Phrases

R12 Extremely flammable

Safety Phrases

S2 Keep out of the reach of children

S9 Keep container in a well-ventilated place

S16 Keep away from sources of ignition – NO SMOKING

S33 Take precautionary measures against static discharges

Note: Closed refillable cylinders, and non-refillable cylinders within the scope of EN417, for fuel gases, which are only released for combustion only have to bear an appropriate symbol (supply or carriage) and the risk and safety phrases concerning flammability. Such cylinders are exempted from carrying the risk and safety phrases relating to health effects.

16. Other Information

The references set out below give further information:

LEGISLATION NORTHERN IRELAND

- Carriage of Dangerous Goods (Classification, Packaging and Labelling) and Use of Transportable Pressure Receptacles Regulations 1996
- Carriage of Dangerous Goods by Rail Regulations 1996
- Carriage of Dangerous Goods by Road Regulations 1996
- Chemical Hazard Information and Packaging for Supply Regulations 2001 (CHIP 3)
- Control of Industrial Major Accident Hazards Regulations 1999
- Dangerous Substances and Explosive Atmospheres Regulations 2002
- Dangerous Substances (Notification and Marking of Sites) Regulations 1990
- Health and Safety at Work etc. Act 1974
- Highly Flammable Liquids and Liquefied Petroleum Gases Regulations 1972
- Management of Health and Safety at Work Regulations 1992
- Notification of Installations Handling Hazardous Substances Regulations (NIHHS) 1982

LEGISLATION REPUBLIC OF IRELAND

- Dangerous Substances (Conveyance of Scheduled Substances by Road) (Trade or Business) Regulations, 1980 SI 235 of 1980.
- Dangerous Substances (Conveyance of Scheduled Substances by Road) (Trade or Business) Amendment Regulations 1986 (SI 268 of 1986).
- Dangerous Substances (Storage of Liquefied Petroleum Gas) Regulations 1990.
- European Communities (Major Accident Hazards of Certain Industrial Activities) Regulations 1986 and Amendments.
N.B.: These Regulations are only applicable at present to cylinder filling and storage in excess of 50 ton and 200 ton.
- European Communities (Classification, Packaging, Labelling and Notification of Dangerous Substances) Regulations 1994.
- Health and Safety at Work Act 1989.

ADDITIONAL INFORMATION

CONCAWE Product Dossier "Liquefied Petroleum Gas", 92/102 contains additional toxicological and ecological data.

Irish Standard 3213, Code of Practice for the storage of LPG Cylinders and Cartridges.

Petroleum Gas Irish Standard 3216, (Parts 1 & 2) Code of Practice for the Bulk Storage of Liquefied Petroleum Gas.

Guide to the Conveyance of Dangerous Substances by Road.

Guide to the Code of Practice for the Storage of LPG Cylinders and Cartridges

(ILPGA Leaflet - Available from Calor Teoranta, Telephone: (01) 450 5000)

The Safe Installation of Propane Cylinders.

(HSA/ILPGA Leaflet - Available from Calor Teoranta, Telephone: (01) 450 5000)

Literature and Technical Advice

(Available from Calor)

L.P. Gas Association (U.K.) Codes of Practice.

The information in this document is believed to represent good practices at the time of publication. However, no responsibility or liability is accepted by Calor Teoranta / Calor Gas Northern Ireland Limited for any loss or damage arising out of the information given. It is essential that all persons concerned with the use of this product adhere to all Regulations, COP's and Standards, particularly those relating to health, safety and the environment.



Salt Union Ltd.
A Compass Minerals Company

Salt Union Ltd.
Astbury House
Bradford Road
Winsford CW7 2PA
www.saltunion.com
T: +44 (0)1606 596530

Material Safety Data Sheet

1

Identification of the Substance and Company

PRODUCT NAME: ROCK SALT:
GROUND ROCK SALT, 'THAWROX', 'BETROX'

Address/Phone Number: Salt Union Limited
Winsford Rock Salt Mine
Bradford Road
Winsford
Cheshire CW7 2PE
Tel: 01606 592201

Emergency Phone Number: IN AN EMERGENCY DIAL 999
For specialist advice in an emergency telephone
Winsford (01606) 592201

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2

Product Description

Rock Salt is approximately 94% pure salt and has a characteristic reddish-brown colour owing to the presence of marl (an insoluble mineral) which is the chief impurity.

Alternative Names: Sodium Chloride, Common Salt, Halite

CAS Number: 007647 14 5

EINECS Number: 231 598 3

HAZARDOUS INGREDIENT(S) Contains no Hazardous Ingredients
EC Directive 93/112/EEC

3

Hazards Identification

Unlikely to cause harmful effects under normal conditions of handling and use.

4

First Aid Measures

Inhalation:	Remove patient from exposure.
Skin Contact:	Wash skin with water. eyelids
Eye Contact:	Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 10 minutes. If symptoms develop, obtain medical attention.
Ingestion:	Wash out mouth with water and give 200-300ml (half a pint) of water to drink. Obtain medical attention if ill-effects occur.
Further Medical Treatment:	Symptomatic treatment and supportive therapy as indicated.

5

Fire Fighting Measures

Non-combustible

Extinguishing Media: As appropriate for surrounding fire.

Fire Fighting Protective Equipment: No special requirements.

6

Accidental Release Measures

- Clear up spillages.
- Transfer to a container for disposal.
- Wash the spillage area with water.
- Spillages or uncontrolled discharges into water courses, drains or sewers must be IMMEDIATELY alerted to the Environment Agency or other appropriate regulatory body

7

Handling and Storage

HANDLING

Avoid contact with eyes. Avoid prolonged skin contact. Atmospheric levels should be controlled in compliance with the occupational exposure limit for dust. Keep away from strong acids and common metals. Static electricity can be generated by pneumatic conveying, therefore pipes should be bonded and earthed, especially where a spark could prove hazardous.

STORAGE

Keep away from concentrated acids. Rock salt can be stored outside. Care should be taken to avoid excessive run-off into water or onto vegetation

8

Personal Protection and Exposure Controls

Wear suitable protective clothing, gloves and eye/face protection. An approved dust mask should be worn if exposure to levels above the occupational exposure limit is likely.

Occupational Exposure Standard (UK HSE Guidance Note EH40)

	Time Weighted Average mg/m ³ (ppm)
Dust (Total Inhalable Dust)	10
Dust (Respirable Dust)	4

9

Physical and Chemical Properties

Form:	Crystalline solid
Colour:	Red-brown
Odour:	Odourless
Boiling Point (Deg C):	1413
Melting Point (Deg C):	802
Density of Sodium Chloride (g/ml):	up to 2.165 at 20 Deg C
Bulk Density (g/ml):	1.2 to 1.5 approx
Solubility (Water):	freely soluble, with some insoluble marlstone residue
NOMINAL PARTICLE SIZE RANGE:	
Thawrox 10	0-10mm
Thawrox 6	0-6mm
Betrox	0-6mm

10

Stability and Reactivity

Hazardous Reactions:	Reactions with concentrated acid will produce hydrogen chloride. Under wet conditions, will corrode many common metals, particularly iron, aluminium and zinc.
-----------------------------	--

11

Toxicological Information

Inhalation:	High concentrations of dust may be irritant to the respiratory tract.
Skin Contact:	Will remove the natural greases resulting in dryness, cracking and possibly dermatitis. Repeated and /or prolonged skin contact may cause irritation.
Eye Contact:	Dust may cause irritation.
Ingestion:	May cause vomiting and diarrhoea. The swallowing

of small amounts is unlikely to cause any adverse effects.

Long Term Exposure:

Repeated ingestion of excessive amounts may cause disturbance of body electrolyte and fluid balance.

12

Ecological Information

Environmental Fate and Distribution	High tonnage material with wide disperse use. Solid with low volatility. The product is soluble in water. The product has no potential for bioaccumulation. The product is predicted to have high mobility in soil.
Toxicity	Low toxicity to aquatic organisms.
Effect on Effluent Treatment	Adverse effects would not be expected.

13

Disposal Considerations

Disposal should be in accordance with local, national and European Community legislation

14

Transport Information

Not classified as dangerous for transport

15

Regulatory Information

Not classified as dangerous for supply or use

16

Other Information

USES: HIGHWAYS DE-ICING, FERTILISER, ANIMAL FEED ETC.

This data sheet was prepared in accordance with Directive 93/112/EC and the Chemicals (Hazard Information and Packaging for Supply) Regulations 1994. Information in this publication is believed to be accurate and is given in good faith but the Customer should ensure the suitability for any particular purpose. Accordingly, Salt Union gives no warranty as to the fitness of the Product for use and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that such exclusion is prevented by law. Freedom under Patent, Copyright and Designs cannot be assumed.

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This Data sheet was prepared December 2006. Data sheets are reviewed annually.