



OPTICAL SURFACE TECHNOLOGIES

An LSM Business

MATERIAL SAFETY DATA SHEET

Complying with Directive 91/155/EEC March 21 1991

1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION	
Product Name:	Regipol 500, 700, 800 Series 601, 603, 604, 606, 498 DS Grades
CAS No:	
SDS Reference:	20
Company:	Optical Surface Technologies An LSM Business
Address:	Fullerton Road Rotherham S60 1DL U.K.
Telephone No:	+44 (0) 1709 828 500
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Emergency Telephone:	As above

2 COMPOSITION / INFORMATION ON INGREDIENTS
Chemical composition
A naturally occurring complex mixture of rare earth oxides /fluorides and oxyfluorides containing suspension aid and inert fillers. CeO ₂ (CAS 1306-38-3), La ₂ O ₃ (CAS 1312-81-8), Nd ₂ O ₃ (CAS 1313-97-9) and Pr ₆ O ₁₁ (CAS 12037-29-5)

3 HAZARDS IDENTIFICATION	
Classification	
Hazards	Irritation of the skin, eyes and mucous membranes may occur. Compounds of cerium and other rare earth elements are generally of low toxicity. Because lanthanide fluorides, components of this material, are highly insoluble stable compounds, exposure to free fluoride and symptoms of fluoride toxicity are not likely to occur.

4 FIRST AID MEASURES	
Inhalation	If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist seek medical attention.
Skin contact	Cleans easily from skin by thoroughly washing with mild soap and water. If irritation or redness develops: seek medical attention.
Eye contact	If irritation develops, flush eyes with clean water. If symptoms persist: seek medical attention.
Ingestion	If normal hygiene rules are applied, any hazards associated with ingestion will be eliminated. In the unlikely event of a problem, do not induce vomiting. Give one pint/500mls of water to drink and seek immediate medical attention.

5 FIRE FIGHTING MEASURES	
Extinguishing media	Regipol is not flammable, neither is it incompatible with any likely extinguishing media used in the vicinity e.g. water, powder or foam.
Exposure hazards	Fire fighters should avoid dust generated by Fire Fighting efforts.
Equipment	No particular equipment required as the product is not combustible.
Personal precautions	



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6 ACCIDENTAL RELEASE MEASURES

Personal precautions	Flush spilled material into suitable retaining areas or containers with water or use vacuum cleaning system to avoid airborne particles. Minimise dust generation.
Environmental Precautions	The product should be disposed of in accordance with local, county, state and national regulations.
Decontamination procedures	Remove dust contamination by the use of a suitable vacuum cleaner

7 HANDLING AND STORAGE

Handling precautions	Careful handling should avoid accidental spillage
Storage conditions	Store in closed container in a dry location

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits (UK)

Substance	Type of OEL	8 hour TWA (mg.m-3)	15 minute STEL (mg.m-3)	Reference
Total inhalable dust	OES	10	-	1
Respirable dust	OES	4	-	1
Fluoride	OES	2.5	-	1

OEL: Occupational exposure limit

TWA: Time weighted average

STEL: Short term exposure limit

MEL: Maximum exposure limit

OES: Occupational exposure standard

If outside the UK, the user should consult the appropriate literature to determine the relevant standard(s).

Monitoring	Dependent upon the user's assessment of risks to health regarding the process(es) employed, it may be necessary to undertake a programme of exposure monitoring to demonstrate that the OEL is not normally exceeded.
Engineering control measures	Engineering control measures such as local exhaust ventilation (LEV) may be required to control dust exposure. Such methods of control should take precedence over the use of respiratory protective equipment.
Personal protective equipment	
Respiratory protection	If LEV is not used, a suitable dust mask fitted with an appropriate filter may be required. The type of dust mask and filter will be dependent upon dust concentrations.
Hand, Eye and Skin Protection	Other than normal personal protective equipment (ppe) no specific protection should be necessary. Any dust on hands or other body parts should be washed off in the normal manner. Systems of work should ensure that workwear does not become contaminated with dust which might then be carried away from the work area into mess rooms or other areas.



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9 PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Brown/Buf coloured powder
Odour	None
pH	Typically 7 - 9
Boiling pt/boiling range	N/A
Melting pt/melting range	N/A
Flash point	N/A
Flammability (solid, gas)	Non-flammable
Explosive properties	None
Oxidising properties	None
Vapour pressure	N/A
Absolute Density	4.0 - 7.0 g/cc
Solubility - hydrosolubility	up to 5% in the form of a non-hazardous suspension and may dissolve in the liquid phase of any slurry produced
- liposolubility	Insoluble

10 STABILITY AND REACTIVITY	
Conditions to avoid	None
Materials to avoid	None
Hazardous decomposition products	At high temperatures, e.g. in a fire, it may release harmful oxides and/or fluorides and traces of organic fume (aldehydes).
Materials are stable under normal circumstances.	

11 TOXICOLOGICAL INFORMATION	
Health effects	
Acute toxicity	LD50 rat (oral) CeO_2 > 4200 mg/kg, LD50 rat (oral) La_2O_3 > 10000 mg/kg, LD50 rat (oral) Pr_6O_{11} > 1000 mg/kg, LD50 rat (oral) Nd_2O_3 > 1000 mg/kg (2)
Chronic toxicity	This material has not been identified as carcinogenic by NTP, IARC or OSHA. Lanthanides, because of their high density, can produce striking abnormalities on chest x-ray. Lanthanides generally are not felt to be fibrogenic and the lesions typically have little or no clinical significance. However, occasional cases of suspected pneumoconiosis have been reported.
Irritation/Sensitization	Not known to be a skin irritant

12 ECOLOGICAL INFORMATION	
Bioaccumulative Potential: Ecologically inert material. Due to low solubility bioaccumulation is not likely.	
Aquatic Toxicity and other data relating to Ecotoxicity: The material will settle from aqueous suspension. The function of sewage works should be unaffected.	

13 DISPOSAL CONSIDERATIONS	
In the absence of specific national or regional provisions the spent slurry can be disposed of to landfill.	
All packaging can similarly go to landfill, though the plastic buckets would be suitable for alternative use after simple washing with water.	

14 TRANSPORT INFORMATION	
There are no special precautions necessary for transport or conveyance either internally or to the customer.	



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15 REGULATORY INFORMATION

This Safety Data Sheet has been established in accordance with EEC Directive No91/155/EEC.

Risk phrases	None
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Safety phrases	None
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All recipients should be aware of any other national measures that may be relevant.

16 RELEVANT LEGISLATION

Health and Safety at Work etc Act

Chemical (Hazard Information and Packaging) Regulations (CHIP)

Control of Substances Hazardous to Health Regulations

Environmental Protection Act (EPA)

Duty of Care Regulations (Section 34 of EPA)

OTHER DOCUMENTATION

CHIP Approved Supply List ISBN 0 11 882156 3

CHIP Approved guide to classification ISBN 0 11 882155 5

OTHER INFORMATION

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REFERENCES

1 EH40/98 Occupational Exposure Limits 1998 publ HSE 1998. Revised annually

2. Registry of toxic effects of chemical substances