

Mansol (Preforms) Limited
 1 Hollands Road, Haverhill,
 Suffolk, CB9 8PX, England
 Tel: (01440) 702371
 Fax: (01440) 712512
 E-mail: info@mansol-preforms.com
 Web: www.mansol-preforms.com
 Registered in England No: 536059

GLASS DATA SHEET - L13 -BATCH DATA (1025 BATCH)

Code:	L13
Coefficient of Expansion x 10⁻⁷ cm/cm/°C (30°C - 300°C):	77.6
Dielectric Constant (1MHz @ 25°C):	71
Volume resistivity Log (Ω-cm) 50°	9.8
150°	7.0
Specific Surface Area	2,480 CM**2/G
Mean Diameter of S.S.A	3.2 (Micro-Meter)
Transformation Point °C	205
Deflection Point °C	242
Softening Point °C	280
Density g/cm²	7.57
Sealing Condition of Flow Button °C	320 (10 Mins)
Flow Button Diameter	19.6
Colour	Dark Green

Composition:

PbO	>70
BiO	>5
BO	<3
NbO	<5
TiO	<10
ZnO	<3
FeO	<3

Important notice

The above statements are based on information available at this point in time. These statements do not hold Mansol (Preforms) Ltd. to any legal obligations. Mansol (Preforms) Ltd. are providing these statements in good faith, but no warranties are made to the completeness or accuracy, and no liability is accepted for the damages resulting from the use or reliance upon these statements.

MATERIAL SAFETY DATA SHEET**1. PRODUCT IDENTIFICATION:**

L13

2. COMPOSITION/ INFORMATION ON MAIN INGREDIENTS:

PbO	>70
BiO	>5
BO	<3
NbO	<5
TiO	<10
ZnO	<3
FeO	<3

3. HAZARDS IDENTIFICATION:

- Eyes - Eyes can be irritated by nuisance dust.
- Dust - Dust from the product may cause irritation of the respiratory system. Prolonged exposure of dust may lead to pulmonary problems.
- Skin - Skin can be irritated by nuisance dust.

4. FIRST AID MEASURES:

- Eye - Flush immediately with clean water and call Ophthalmologist.
- Ingestion - Gastric lavage (stomach wash) followed by saline catharsis.
- Skin - Wash with soap and water

Immediate medical advice: Toxicology studies on the polymer have shown this material to be of very low acute toxicity and non-irritant. There is no specific antidote.

5. FIRE FIGHTING MEASURES:

Use fire-extinguishing media suitable for the surrounding fire.

6. ACCIDENTAL RELEASE MEASURES:

Uncontaminated material may be scooped up for use. If contaminated, scoop or vacuum into a receptacle for disposal. Avoid spreading dust or contaminated materials.

Use dust mask/PVC gloves/goggles.

7. HANDLING AND STORAGE:

Good industrial hygiene – avoid creating dust. Wash hands and any other contaminated areas of the body with soap and water after working with the material.

Store in a dry area away from feed and food products in original container. Keep container dry and away from Moisture. Mansol suggest the use of a Superdry cabinet with humidity getter. Parts are to be kept in glass vials sealed as supplied until used. Once the vials have been opened and parts used, they should be returned to the dry cabinet. Although we do not guarantee an exact shelf-life we have stored preforms in this way for many years and have not seen any issues.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION:

Frits, Chemical (Group 8)

Long-term exposure limit (8-hour TWA): Workplace Exposure Limit 0.1mg/m³

Precautions: Vent dust to collector - protect against dust particles. Wear appropriate clean, protective clothing such as, but not limited to, overalls, smocks, aprons, gloves, shoes or hats.

The use of approved dust masks is obliged in case dust concentrations exceed the MAC/TLV value for inert dusts:

10 mg/m³ for total dust 5 mg/m³ for respirable dust

Wear breathing apparatus, eye protection and chemical resistant impervious gloves complying with approved standard. Breathing apparatus selection must be based on exposure levels.

Provide adequate general and local exhaust ventilation.

9. STABILITY:

Not corrosive and not reactive.

10. TOXICOLOGICAL INFORMATION:

Acute toxicity – oral: ATE oral (mg/kg) 500.0

Acute toxicity – inhalation: ATE inhalation (gasses ppm) 4500.0

ATE Inhalation (Vapours mg/l) 11.0

ATE inhalation (dusts/mists mg/l) 1.5

11. ECOLOGICAL INFORMATION:

Dangerous for the environment. The product contains only inorganic substances which are not biodegradable.

12. DISPOSAL CONSIDERATIONS:

Dispose of in accordance with governmental and local regulations.

13. TRANSPORTATION:

Not restricted.

14. COLOURING:

No consideration is made above for the inclusion of any oxides/colouring agents, which may be requested by the customer. Safety information of these materials can be obtained by writing to Mansol (Preforms) Ltd at the above address.

15. OTHER INFORMATION**RISKS:**

- Harmful by inhalation and if swallowed
- Danger of cumulative effects
- Very 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

HAZARDS:

- Harmful if swallowed
- Harmful if inhaled
- May damage the unborn child. Suspected of damaging fertility.
- May cause damage to organs through prolonged or repeated exposure.
- Very toxic to aquatic life with long lasting effects.

16. DISCALIMER:

Judgements as to the suitability of information herein or the purchaser's purposes are the purchaser's responsibility. Reasonable care has been taken in the preparation of this information, but Mansol (Preforms) Ltd extends no warranties, makes no representations and assumes no responsibility of this information for any purchasers use or for any consequence of its use.

SUBJECT: ROHS II & EU REACH AND SVHC UPDATE 2019 – L13 SEALING GLASSES

REACH Statement

Mansol (Preforms) Ltd takes this opportunity to update you regarding the EU legislation and regulations concerning REACH (Registration, Evaluation and Authorization of Chemicals) and certain products which you may purchase from Mansol (Preforms) Ltd that are produced from L13 glasses.

REACH entered into force on June 1, 2007 and the Pre-Registration period was June 1, 2008 to December 1, 2008. REACH covers all substances manufactured in or imported to the EU above one metric ton per year. However, articles are exempt if they do not intentionally release substances to the environment. Certain substances have been exempted from REACH.

This statement includes the RoHS 2 Directives_2015/863/EU (Annex III)

Two Hundred and one (201) substances have been listed as Substances of Very High Concern (SVHC) or are proposed to be listed as of July 2019. SVHCs have special EU regulatory requirements, including downstream user notification requirements if your products or articles contain more than 0.1% by weight of an SVHC.

RoHS 2 Update

Due to the upcoming amendment (EU) 2015/863 to Annex II of RoHS 2, Mansol would like to update our customers who are requesting updated compliance to the latest RoHS 10 substance restrictions of priority products and their related components/materials. The update is due to enter force in EU member states law, for our products, on 22 July 2019. Mansol customers who wish to identify and control any non-compliant stock in advance may use this document as proof of compliance.

Mansol Preforms Ltd. is committed to follow all applicable global laws, directives and regulations.

Unless otherwise specified, Mansol Preforms Limited hereby certifies that all its products that are identified as RoHS compliant fulfil the definitions and restrictions defined under Directive 2011/65/EC of the European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) – recast.

Mansol Preforms Limited. is keenly aware that RoHS II exemptions that currently apply to some of our products are set to expire on July 21st, 2021. Although many of the exemptions have recently been extended to this date, we will continue to actively search for alternatives and scrutinize viable (performance, quality and costs) options. We will continue to work with Electronic Industry Leaders and Global Electronic Industry Associations to prepare the necessary data for future relevant exemption renewal applications.

Currently concerned exemptions as per Annex II, RoHS II are, 7 a, 7 c(I) and 7 c(II).

Important Notice

The above statements are based on information available at this point in time. These statements do not hold Mansol (Preforms) Ltd. to any legal obligations. Mansol (Preforms) Ltd. are providing these statements in good faith, but no warranties are made to the completeness or accuracy, and no liability is accepted for damages resulting from the use or reliance upon these statements.

Mansol (Preforms) Limited
1 Hollands Road, Haverhill,
Suffolk, CB9 8PX, England
Tel: (01440) 702371
Fax: (01440) 712512
E-mail: info@mansol-preforms.com
Web: www.mansol-preforms.com
Registered in England No: 536059

REACH & ROHS II CERTIFICATE 2019 – L13

Mansol (Preforms) Ltd hereby confirm that in case of the products named L13 we always observe the prescriptions of REACH (1907/2006/EC) regulation and the latest ROHS directive. The product(s) are fully compliant with the relevant regulation.

REACH compliance means that all substances contained in this product:

- has/have been pre-registered and/or has/have been registered by our company and/or our suppliers, and/or
- is/are excluded from the Regulation, and/or
- exempted from registration

Observance of the prescriptions is also demanded by us from our suppliers, and it is continuously checked. The pertinence of the above-mentioned information is continuously checked by us, if any change happens or new information comes up, our customers will be informed immediately. Mansol (Preforms) Ltd fully complies with EU legislation under the WEEE and RoHS II directives and has ensured that all its suppliers have registered under REACH and comply. We keep up-to-date with any changes that the EU introduces particularly amendments / additions to the list of banned Substances of Very High Concern, (SVHC). We can assure you that none of our products contain SVHC materials and that we will continue to maintain this situation. Furthermore, we do not foresee any problems in maintaining the supply of these materials in the future.

RoHS 2 declaration/certificate

This certificate covers the original RoHS 2 2011/65/EU and the amendment (EU) 2015/863/EU adding the 4 phthalates DEHP, BBP, DBP and DIBP; It applies to the part numbers specified below.

<u>Mansol Part Number</u>	<u>OFP Part Number</u>
M8261/1	PRE10679 ISS2
M8583/2	PRE11526-01 ISS2
M8261/1	PRE10679 ISS1
M8174/1	PRE03318
M8263/1	PRE10682 ISS1
M8174/2	PRE10531 ISS1

The L13 glass preforms supplied by Mansol (Preforms) Ltd contain lead oxide. At present there is an exemption for lead glass (7-C-1) under the RoHS II and REACH SVHC regulations because a lead-free glass that softens at the low temperatures required for opto-applications, (below 325°C) does not exist. Also, the amount of glass used to produce a preform for opto-applications, e.g. clamping optical fibres is very small, typically a few Milligrams, this means the overall weight of lead in an opto-module, will be below 0.1%. The recent updates on the SVHC regulations do not include in it any material that is contained within this preform.

Date: 16/10/2019

Adam Kimber Managing Director