

UK1618 TECHNICAL DATASHEET

Technical Data – Liquid Properties

Appearance	White Viscous Liquid
Rotary Viscosity	416-420 mPa·s @ 25 °C
Density	1.18 g/cm ³ @ 25 °C
Dp (Cure Slope)	5.95 mils
Ec (Critical Exposure)	13 mJ/cm ²

Technical Data – Mechanical Properties

Property	Test Method	UK1618
Tensile Strength	ASTM D638M	40-44 MPa
Tensile Modulus	ASTM D638M	2080-2480 MPa
Elongation at Break	ASTM D638M	8-12%
Flexural Strength	ASTM D790	76-82 MPa
Flexural Modulus	ASTM D790	1860-2060 MPa
Izod Impact (Notched)	ASTM D256	30-34 J/m
Water Absorption	ASTM D570	0.38-0.42%
Hardness (Shore D)	ASTM D2241	78- 80D
HDT @ 0.45 MPa	ASTM D648	49 - 61 °C
HDT @ 1.82 MPa	ASTM D648	48 - 60°C

Material Description

- Matte white photopolymer resin with stable rheology and uniform print characteristics
- Moderate viscosity (~418 mPa·s @ 25 °C) ideal for precision layer-by-layer deposition
- Good dimensional accuracy and surface definition across complex geometries
- Formulated for structural integrity: balanced tensile strength and flexural modulus
- Capable of printing detailed parts with minimal warping or shrinkage
- Surface finish supports fine feature retention and post-processing (e.g. sanding, painting)
- Low odor and low volatility formulation, suitable for enclosed system environments
- Compatible with industrial 355 nm SLA platforms and high-resolution prototyping workflows
- Designed for functional prototyping, assembly fit testing, and end-use concept models

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SECTION 1. IDENTIFICATION

Product Name: Photopolymer Resin

Trade Name: UK1618

Suppliers Details

Company Name: R4PID Operations LTD

Company

Address: Unit 50 Monument Business Park, Warpsgrove Lane, Chalgrove
OX44 7RW, United Kingdom

Telephone: 01865 570594

Email: info@r4pid.co.uk

Recommended use of the chemical and restrictions on use

Restrictions on
use: For professional use only

SECTION 2. HAZARDS IDENTIFICATION

GHS Hazard Statement: H315 – causes skin irritation
H317 – may cause an allergic skin reaction
H319 – causes serious eye irritation

GHS Label Icon:



GHS Label Keyword: WARNING (GHS07 – Exclamation Mark)

Warning

1. May be harmful if swallowed or in contact with the skin.
2. Causes skin irritation, may cause an allergic skin reaction.
3. Avoid breathing dust/fume/mist/vapours/spray.
4. Wash hands thoroughly after handling.
5. Contaminated work clothing should not be allowed out of the workplace.
6. Avoid release to the environment
7. Wear protective gloves/eye protection/face protection.
8. If swallowed, call a poison center or see a doctor if you feel unwell.
9. If on the skin, wash with plenty of soap and water.
10. If in eyes, rinse immediately with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Do not rub your eyes. Get medical attention if irritation develops and persists.
11. If skin irritation or rash occurs, get medical advice/attention

The product consists of individual ingredients. The composition of ingredients can be obtained from section 3.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-NO.	Concentration	Hazardous (H) / Non-Hazardous (NH)
Glycidyl ether epoxy resin	30583-72-3	10%-50%	NH
3,4-Epoxy-cyclohexanemethyl-3',4'-epoxycyclohexylcarboxylate	2386-87-0	5%-35%	NH
3-Ethyl-3-oxetanemethanol	3047-32-3	5%-35%	NH
Dipentaerythritol Pentaacrylate	60506-81-2	1%-10%	NH
Photoinitiator (the mixture of benzophenone and hexafluorophosphate)	947-19-3 & 68156-13-8	1%-10%	NH

SECTION 4. FIRST AID MEASURES

- General advice:** Do not leave the victim unattended.
- Eye contact:** Rinse immediately with plenty of water for at least 15 minutes.
Remove contact lenses if present and easy to do.
Call a physician.
- Ingestion:** Immediately drink 500-800ml water.
If charcoal slurry is accessible, re-drinking with it to promote emesis.
Do not administer anything orally to an unconscious person or someone having a convulsion.
Call a physician.
- Inhalation:** Move to fresh air.
If the person loses consciousness, lie on side.
If suffocation occurs, give artificial respiration at once.
Call a physician.
- Skin contact:** Wash off immediately with soap and plenty of water. Do not use organic solvents.
If skin irritation persists, call a physician.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media:** Dry powder or carbon dioxide can be used for small fires; aqueous foam or water spray for larger fires.
- Hazardous characteristics:** Not flammable
- Special protective**

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equipment for firefighters: Wear self-contained breathing apparatus for fire-fighting and full protective gear, if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Refer to protective measures listed in sections 7 and 8.
Environmental precautions: Do not discharge sewage into drains, soil, river or sea.
Methods and materials for containment and clean up: Sweep up and shovel into suitable containers for disposal. Dispose of waste, sewage and contaminated soil in accordance with local regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling: Provide sufficient air exchange and/or exhaust in work rooms. Ensure adequate ventilation. Handle and open container with care.
Conditions for safe storage: Store at temperatures between 5°C - 50°C.
Further information on storage conditions: Store in a cool, dry and ventilated environment. Keep container tightly closed. Storage class 12.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Maximum permissible concentration: N/A
Engineering measures: Good general mechanical ventilation and local exhaust.
Respiratory protection: Wear a self-suction filter respirator when the vapour concentration is high.
Eye protection: Tight fitting safety goggles.
Hand protection: Wear rubber gloves.
Body Protection: Wear protective suit.
Other protection requirements: Provide safe shower and eyewash equipment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance:	White viscous liquid.
Miscibility with water:	Immiscible at 20°C.
Octanol/water partition	N/A
Coefficient:	N/A
Odour:	Typical.
Density:	1.18g/cm ³ @ 25°C.
Ignition temperature:	No data available.
Viscosity, dynamic:	418 mPa•s @ 25°C.
Point of melting:	N/A
Vapour pressure:	No data available.
Explosive properties:	None, no explosive ingredients.
Boiling point:	No data available.
Flash point:	>95°C
PH value:	3–6
Main application:	Photopolymer resin for 3D printing.

SECTION 10. STABILITY AND REACTIVITY

Thermal Stability:	N/A
Materials to avoid:	Strong acids and strong bases. Strong oxidising agents.
Conditions to avoid:	Keep away from heat, sparks, flames and water.
Possibility of hazardous	
Reactions:	None
Hazardous decomposition	
products:	Thermal decomposition may produce carbon dioxide and other toxic gases or vapours.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	N/A
Subacute and chronic	
toxicity:	N/A
Irritation:	Irritates eyes and skin.
Sensitisation:	Causes sensitisation.
Mutagenicity:	N/A
Teratogenicity:	N/A
Carcinogenicity:	N/A

SECTION 12. ECOLOGICAL INFORMATION

Biodegradability:	No data available
Non-biodegradability:	No data available
Bioaccumulation:	No data available
Other harmful effects:	The substance may be hazardous to the environment.

Avoid contaminating surface water.

SECTION 13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS

Product: Do not contaminate drains, soil or surface waters with this material or its container. Reduce waste by attempting to utilise the product completely. Dispose of product in accordance with all local, state and federal regulations.

Contaminated packing: Dispose of container in accordance with all local, national and government regulations.

SECTION 14. TRANSPORT INFORMATION

Land transport:
(ADR/RID/GGVSE) Not regulated.

Sea transport:
(IMDG-Code/GGVsee) Not regulated.

Air transport:
(ICAO-IATA/DGR) Not regulated.

SECTION 15. REGULATORY INFORMATION

THIS PRODUCT IS CLASSIFIED AND LABELED IN ACCORDANCE WITH THE RETAINED EU LEGISLATION FOR CHEMICAL CLASSIFICATION IN THE UNITED KINGDOM, INCLUDING:

- UK REACH (REGISTRATION, EVALUATION, AUTHORISATION AND RESTRICTION OF CHEMICALS) REGULATION
- UK CLP (CLASSIFICATION, LABELLING AND PACKAGING) REGULATION
- HEALTH AND SAFETY AT WORK ETC. ACT 1974
- COSHH (CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH) REGULATIONS 2002 (AS AMENDED)
- CHEMICALS (HEALTH AND SAFETY) AND GENETICALLY MODIFIED ORGANISMS (CONTAINED USE) (AMENDMENT ETC.) (EU EXIT) REGULATIONS 2019

CHEMICAL SAFETY ASSESSMENT: NO CHEMICAL SAFETY ASSESSMENT HAS BEEN CARRIED OUT FOR THIS MIXTURE.

CAS – Chemical Abstracts Service
GHS – Globally Harmonized System

SECTION 16: OTHER INFORMATION

The information given in this safety data sheet is intended to be used as a guide for safe handling, use, storage, transportation and disposal and is not intended for use as warranty or quality specification.

-SAFETY DATA SHEET ENDS-

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