SAFETY DATA SHEET

Gelatin Methacrylate (GelMA)

Methacrylated Gelatin | Research Use Only

Document version	1.0
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Basis	Safety information for methacrylated gelatin (GelMA), supplied as a dry research reagent.

SECTION 1: Identification

1.1 Product identifier	Gelatin Methacrylate (GelMA)
Catalog number	GelMA (all grades; specific SKU to be assigned)
Product description	Methacrylated gelatin, photocrosslinkable biopolymer. Supplied as dry powder.
1.2 Identified uses	For research use only, including hydrogel preparation, bioinks, and cell culture research.
Uses advised against	Not for human or veterinary clinical, diagnostic or therapeutic use.
1.3 Supplier / distributor	Carlsbad Bio | American Fork, Utah, USA | www.CarlsbadBio.co | Support@CarlsbadBio.co
1.4 Emergency information	For a medical emergency in the United States, call 911. Poison Control: 1-800-222-1222.

SECTION 2: Hazard(s) identification

2.1 Classification	Not classified as a hazardous substance or mixture under GHS based on published SDSs for comparable dry GelMA materials. Product-specific composition should be verified.
2.2 Label elements	No GHS pictograms, signal word, or hazard statements required for comparable dry GelMA materials.
2.3 Other hazards	Dust may cause mechanical irritation. Residual methacrylation reagents and additives, if present, can alter classification.

SECTION 3: Composition/information on ingredients

3.1 Substance	Gelatin methacrylate (GelMA; gelatin methacryloyl).
Source material	Gelatin-derived polymer; animal source and bloom strength vary by grade.
CAS number	No universally applicable CAS for all modified GelMA products; gelatin CAS 9000-70-8 refers to parent material.
Composition / impurities	Degree of methacrylation and residual reagents are grade- and lot-dependent.

SECTION 4: First-aid measures

4.1 General	Remove from exposure. Obtain medical advice if symptoms persist.
Inhalation	Move to fresh air. Seek medical advice if breathing difficulty or irritation persists.
Skin contact	Wash thoroughly with soap and water. Remove contaminated clothing.
Eye contact	Rinse cautiously with water for at least 15 minutes. Remove contact lenses if easy to do. Seek medical advice for persistent irritation.
Ingestion	Rinse mouth with water. Do not induce vomiting unless directed by medical personnel. Seek advice if symptoms occur.
4.2 Symptoms / effects	Dust exposure may cause irritation; product-specific toxicological data unavailable.
4.3 Medical attention	Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media	Water spray, foam, carbon dioxide or dry chemical appropriate to the surrounding fire.
5.2 Special hazards	Combustion may produce carbon oxides, nitrogen oxides and irritating organic fumes.
5.3 Firefighter advice	Wear self-contained breathing apparatus and protective equipment.

SECTION 6: Accidental release measures

6.1 Personal precautions	Avoid dust generation and inhalation. Wear suitable laboratory PPE.
6.2 Environmental precautions	Avoid uncontrolled discharge to drains and waterways.
6.3 Cleanup	Carefully collect powder without dispersing dust. Transfer to closed, labeled container; damp-wipe

	residue.
6.4 References	See Sections 7, 8 and 13.

SECTION 7: Handling and storage

7.1 Safe handling	Use standard laboratory hygiene. Avoid inhalation, contact with eyes, and generating airborne powder. Protect formulations from unintended light exposure.
7.2 Safe storage	Keep container tightly closed, dry and protected from moisture and light. Follow the supplier label for grade-specific storage temperature; do not assume a universal storage temperature.
7.3 Specific end uses	Research hydrogel and bioink formulations; consult separate SDSs for photoinitiators and other reagents.

SECTION 8: Exposure controls/personal protection

8.1 Exposure limits	No substance-specific occupational exposure limits identified for GelMA.
8.2 Engineering controls	Adequate general ventilation; use local exhaust or enclosure if powder dust is generated.
Hand protection	Protective laboratory gloves.
Eye/face protection	Safety glasses or goggles.
Skin protection	Laboratory coat and suitable closed-toe footwear.
Respiratory protection	Use suitable particulate protection where engineering controls cannot adequately limit dust.

SECTION 9: Physical and chemical properties

Physical state	Solid; lyophilized powder or porous solid.
Color	Typically white to off-white.
Odor	Not determined.
Solubility	Water soluble in reported commercial grades; product-specific solubility not confirmed.
pH	Not determined for supplied product.
Melting / boiling point	Not determined; polymer may decompose before melting.
Flash point / flammability	Not determined for supplied product. Organic powder may burn under fire conditions.
Vapor pressure / density	Not determined.
Other properties	Degree of methacrylation, molecular weight and residual monomer levels: not provided.

SECTION 10: Stability and reactivity

10.1 Reactivity	Methacryloyl functional groups can polymerize when exposed to suitable photoinitiators and light.
10.2 Chemical stability	Stable under appropriate dry storage conditions; supplier-specific stability data not provided.
10.3 Hazardous reactions	Unintended polymerization is possible when combined with radical initiators under activating conditions.
10.4 Conditions to avoid	Excess heat, moisture, dust dispersion and unintended exposure to initiating light systems.
10.5 Incompatible materials	Strong oxidizing agents; incompatible initiator systems.
10.6 Decomposition products	Carbon oxides and potentially nitrogen-containing decomposition products.

SECTION 11: Toxicological information

Acute toxicity	No product-specific quantitative data available.
Skin / eye irritation	Dust may cause mechanical irritation; formal test data unavailable.
Sensitization	Gelatin-derived protein material; product-specific sensitization data not available.
Mutagenicity / carcinogenicity	No product-specific data available.
Reproductive toxicity / STOT	No product-specific data available.
Other information	Unmodified gelatin hazard data cannot establish the safety of residual methacrylation reagents in GelMA.

SECTION 12: Ecological information

12.1 Ecotoxicity	No product-specific data available.
12.2 Persistence / degradability	Gelatin is biodegradable, but biodegradation of specific methacrylated grades has not been established.

12.3 Bioaccumulation	No data available.
12.4 Mobility in soil	No data available.
12.5 PBT / vPvB	Not assessed.
12.6 Other effects	Avoid release to the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment	Dispose of unused material, contaminated packaging and prepared mixtures in accordance with applicable local, state and federal regulations. Evaluate photoinitiator-containing waste separately.

SECTION 14: Transport information

14.1 UN number	Not assigned based on information currently available; verify against manufacturer SDS.
14.2 Proper shipping name	Not established.
14.3 Transport hazard class	Comparable dry GelMA products are generally not regulated as dangerous goods; verify classification for supplied grade.
14.4 Packing group	Not established.
14.5 Environmental hazards	Not determined.
14.6 Special precautions	Protect packaging from moisture and heat; follow validated cold-chain requirements if applicable.

SECTION 15: Regulatory information

15.1 Regulatory information	Supplier-specific OSHA Hazard Communication and TSCA inventory or R&D exemption status have not been verified.
15.2 Chemical safety assessment	No product-specific chemical safety assessment available.

SECTION 16: Other information

Document status	Version 1.0
Scope	Safety information for dry Gelatin Methacrylate (GelMA) supplied by Carlsbad Bio for research use only.
Limitations	Classification reflects published SDSs for comparable dry GelMA products; verify the actual grade, additives and residual methacrylation reagents before release.
Disclaimer	Information is provided in good faith for laboratory safety planning. It does not guarantee specific product properties or replace applicable regulations.