



MonoStep™ Lowicryl® K4M Polar Embedding Media

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : MonoStep™ Lowicryl® K4M Polar Embedding Media
Product code : 23646
Formula : no data

1.2. Recommended use and restrictions on use

Recommended use : Use as laboratory reagent, Manufacture of substances

1.3. Supplier

Supplier

Polysciences
400 Valley Road
Warrington, PA 18976 - United States
T +1 215 343 6484 - F +1 215 343 0214
info@polysciences.com - www.polysciences.com

1.4. Emergency telephone number

Emergency number : 24-hour emergency phone number ChemTel 1-800-255-3924

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 4	Combustible liquid
Acute toxicity (oral) Category 1	Fatal if swallowed
Acute toxicity (dermal) Category 1	Fatal in contact with skin
Skin corrosion/irritation Category 1C	Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	Causes serious eye damage
Skin sensitization, Category 1	May cause an allergic skin reaction

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

Combustible liquid
Fatal if swallowed or in contact with skin
Causes severe skin burns and eye damage
May cause an allergic skin reaction
Causes serious eye damage

Precautionary statements (GHS US) :

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Do not breathe dust/fume/gas/mist/vapors/spray.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Do not get in eyes, on skin, or on clothing.
Wash hands, forearms and face thoroughly after handling.
Do not eat, drink or smoke when using this product.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

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SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Hydroxypropyl methacrylate, mixture of isomers	(CAS-No.) 27813-02-1	51 – 60	Eye Irrit. 2A, H319 Skin Sens. 1, H317
2-Hydroxyethyl acrylate	(CAS-No.) 818-61-1	21 – 30	Acute Tox. 4 (Oral), H302 Acute Tox. 2 (Dermal), H310 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Acute 1, H400
Triethylene glycol dimethacrylate	(CAS-No.) 109-16-0	6 – 10	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312
4-Methoxyphenol	(CAS-No.) 150-76-5	≤ 5	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Acute 3, H402
Benzoin methyl ether (UV Catalyst)	(CAS-No.) 3524-62-7	0 – 5	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures general : Call a physician immediately.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
- First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
- First-aid measures after ingestion : Rinse mouth. Call a physician immediately. Do not induce vomiting.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after skin contact : Burns. Irritation. May cause an allergic skin reaction.
- Symptoms/effects after eye contact : Serious damage to eyes. Mild eye irritation.
- Symptoms/effects after ingestion : Burns.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

- Fire hazard : Combustible liquid.
- Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapors/spray. No open flames, no sparks, and no smoking.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

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6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
- Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapors/spray. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not get in eyes, on skin, or on clothing.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store at 4 deg. C. Store locked up. Store in a well-ventilated place. Keep cool.
- Storage temperature : 4 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

MonoStep™ Lowicryl® K4M Polar Embedding Media	
No additional information available	
2-Hydroxyethyl acrylate (818-61-1)	
No additional information available	
Hydroxypropyl methacrylate, mixture of isomers (27813-02-1)	
No additional information available	
Triethylene glycol dimethacrylate (109-16-0)	
No additional information available	
Benzoin methyl ether (UV Catalyst) (3524-62-7)	
No additional information available	
4-Methoxyphenol (150-76-5)	
USA - ACGIH - Occupational Exposure Limits	
Local name	4-Methoxyphenol
ACGIH TWA (mg/m³)	5 mg/m³
Remark (ACGIH)	TLV® Basis: Eye irr; skin dam
Regulatory reference	ACGIH 2020
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA) (mg/m³)	5 mg/m³

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

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Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. [In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Colorless liquid.
Color	: Mixture contains one or more component(s) which have the following colour(s): Colorless
Odor	: There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour: caramel phenolic
Odor threshold	: No data available
pH	: No data available
Melting point	: no data
Freezing point	: No data available
Boiling point	: > °C C
Flash point	: > ≥ 200
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: no data
Relative vapor density at 20°C	: no data
Relative density	: No data available
Solubility	: Water: 10.6 g/l
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

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10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Fatal if swallowed.
Acute toxicity (dermal) : Fatal in contact with skin.
Acute toxicity (inhalation) : Not classified

ATE US (oral)	1.799 mg/kg body weight
ATE US (dermal)	16.667 mg/kg body weight

2-Hydroxyethyl acrylate (818-61-1)

LD50 oral rat	540 mg/kg mg/kg
LD50 dermal rabbit	154 mg/kg mg/kg

Benzoin methyl ether (UV Catalyst) (3524-62-7)

LD50 oral rat	7560 mg/kg
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4-Methoxyphenol (150-76-5)

LD50 oral rat	1600 mg/kg
LD50 dermal rabbit	> 2000 mg/kg

Skin corrosion/irritation : Causes severe skin burns.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitization : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified
Viscosity, kinematic : No data available

Symptoms/effects after skin contact : Burns. Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact : Serious damage to eyes. Mild eye irritation.
Symptoms/effects after ingestion : Burns.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment. Before neutralisation, the product may represent a danger to aquatic organisms.

4-Methoxyphenol (150-76-5)

LC50 fish 1	84.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	28.5 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])

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12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

4-Methoxyphenol (150-76-5)

Partition coefficient n-octanol/water (Log Pow)	1.3
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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN2810 Toxic, liquids, organic, n.o.s., 6.1, III
UN-No.(DOT) : UN2810
Proper Shipping Name (DOT) : Toxic, liquids, organic, n.o.s.
Class (DOT) : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132
Packing group (DOT) : III - Minor Danger
Hazard labels (DOT) : 6.1 - Poison



DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 241
DOT Special Provisions (49 CFR 172.102) : IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
DOT Packaging Exceptions (49 CFR 173.xxx) : 153
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

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DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"
Emergency Response Guide (ERG) Number : 153
Other information : No supplementary information available.

Transportation of Dangerous Goods

Not applicable

Transport by sea

Transport document description (IMDG) : UN 2810 TOXIC LIQUID, ORGANIC, N.O.S., 6.1, III
UN-No. (IMDG) : 2810
Proper Shipping Name (IMDG) : TOXIC LIQUID, ORGANIC, N.O.S.
Class (IMDG) : 6.1 - Toxic substances
Packing group (IMDG) : III - substances presenting low danger
Limited quantities (IMDG) : 5 L

Air transport

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

2-Hydroxyethyl acrylate (818-61-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Hydroxypropyl methacrylate, mixture of isomers (27813-02-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Triethylene glycol dimethacrylate (109-16-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Benzoin methyl ether (UV Catalyst) (3524-62-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

4-Methoxyphenol (150-76-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

2-Hydroxyethyl acrylate (818-61-1)

Listed on the Canadian DSL (Domestic Substances List)

Hydroxypropyl methacrylate, mixture of isomers (27813-02-1)

Listed on the Canadian DSL (Domestic Substances List)

Triethylene glycol dimethacrylate (109-16-0)

Listed on the Canadian DSL (Domestic Substances List)

Benzoin methyl ether (UV Catalyst) (3524-62-7)

Listed on the Canadian NDSL (Non-Domestic Substances List)

4-Methoxyphenol (150-76-5)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

4-Methoxyphenol (150-76-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

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4-Methoxyphenol (150-76-5)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

Component	State or local regulations
2-Hydroxyethyl acrylate(818-61-1)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
4-Methoxyphenol(150-76-5)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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Hazard Rating

Health

: 2 Moderate Hazard - Temporary or minor injury may occur

Flammability

: 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

Physical

: 2 Moderate Hazard - Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air.

SDS US (GHS HazCom 2012)

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