



BIMAX® 2-CEMA

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 12/12/2024 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	: Substance
Substance name	: BIMAX® 2-CEMA
Chemical name	: 2-CYANOETHYL METHACRYLATE
IUPAC name	: 2-CYANOETHYL 2-METHYLPROP-2-ENOATE
EC-No.	: 224-835-7
CAS-No.	: 4513-53-5
Product code	: 9246
Formula (Override)	: C7H9NO2
Synonyms	: 2-METHYL-2-PROPENOIC ACID 2-CYANOETHYL ESTER
Product group	: Trade product
Chemical family	: METHACRYLATE

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture	: Laboratory chemicals Manufacture of substances
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1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

GELEST, INC.

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Glen Rock, PA 17327

USA

T 717-227-1774 - F 717-227-1775 - (M-F): 8:00 AM - 5:30 PM EST

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1.4. Emergency telephone number

Emergency number	: CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (oral), Category 3	H301
Acute toxicity (dermal), Category 3	H311
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Skin sensitisation, Category 1	H317
Full text of H- and EUH-statements: see section 16	

Adverse physicochemical, human health and environmental effects

Toxic in contact with skin. Toxic if swallowed. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.

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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

Hazard statements (CLP)

Precautionary statements (CLP)

: Danger
: H301+H311 - Toxic if swallowed or in contact with skin.
: H315 - Causes skin irritation.
: H317 - May cause an allergic skin reaction.
: H319 - Causes serious eye irritation.
: P261 - Avoid breathing gas, mist, vapours.
: P264 - Wash hands thoroughly after handling.
: P280 - Wear protective gloves, protective clothing, eye protection, face protection.
: P302+P352 - IF ON SKIN: Wash with plenty of water.
: P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
: P405 - Store locked up.

2.3. Other hazards

Other hazards which do not result in classification : Hazardous polymerization may occur if exposed to high temperature.

Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : BIMAX® 2-CEMA
CAS-No. : 4513-53-5
EC-No. : 224-835-7

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-cyanoethyl methacrylate	CAS-No.: 4513-53-5	≥ 92	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Skin Irrit. 2, H315 Eye Irrit. 2, H319
Hydroquinone monomethyl ether	CAS-No.: 150-76-5 EC-No.: 205-769-8 EC Index-No.: 604-044-00-7	≤ 0.1	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Skin Sens. 1, H317

Full text of H- and EUH-statements: see section 16

3.2. Mixtures

Not applicable

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.
First-aid measures after skin contact : Remove/take off immediately all contaminated clothing. Wash skin with plenty of water. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Rinse mouth. Call a physician immediately.

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4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Alcohol-resistant foam. Dry chemical. Carbon dioxide.
Unsuitable extinguishing media	: Avoid the use of streaming water, as this may spread the fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: No fire hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released. Combustion products may include the following: carbon oxides (CO, CO ₂) (carbon monoxide, carbon dioxide) nitrogen oxides (NO, NO ₂ etc.).

5.3. Advice for firefighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
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

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Ventilate spillage area. Avoid contact with skin, eyes and clothing. Avoid breathing gas, vapours, mist.

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".
Emergency procedures	: Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
Methods for cleaning up	: Take up liquid spill into absorbent material.
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. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Avoid breathing mist, vapours, gas.
Hygiene measures	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

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7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Store locked up. Keep container tightly closed in a dry and well-ventilated place away from heat sources.
Incompatible materials	: Oxidizing agents.
Storage temperature	: < 32 °C (Recommended)

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

Wear recommended personal protective equipment.

8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colorless to light yellow.
Appearance	: Clear liquid.
Molecular mass	: 139.15 g/mol
Odour	: Not available
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: 95 – 97 °C at 2 Torr
Flammability	: Not applicable
Explosive limits	: Not available
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: Not available
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: Not available
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: 1.0498 g/cm³ at 20 °C
Relative density	: Not available
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

Refractive index : 1.4454 at 20 °C

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Polymerization can occur at elevated temperatures. Contains the following stabilizer(s): MEHQ.

10.3. Possibility of hazardous reactions

Hazardous polymerization may occur.

10.4. Conditions to avoid

Heat and light.

10.5. Incompatible materials

Oxidizing agents.

10.6. Hazardous decomposition products

No data available. In the event of fire: see section 5.

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SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

Hydroquinone monomethyl ether (150-76-5)	
LD50 oral rat	1600 mg/kg
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: EU Method B.3 (Acute Toxicity (Dermal)), Guideline: other:
LD50 dermal rabbit	> 2000 mg/kg

Skin corrosion/irritation : Causes skin irritation.

Hydroquinone monomethyl ether (150-76-5)	
pH	5.6 (aqueous solution)

Serious eye damage/irritation : Causes serious eye irritation.

Hydroquinone monomethyl ether (150-76-5)	
pH	5.6 (aqueous solution)

Respiratory or skin sensitisation : 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

Hydroquinone monomethyl ether (150-76-5)	
LOAEL (oral, rat, 90 days)	300 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:
NOAEL (oral, rat, 90 days)	150 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:

Aspiration hazard : Not classified

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

11.2.2. Other information

Potential adverse human health effects and symptoms : To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

Hydroquinone monomethyl ether (150-76-5)	
LC50 - Fish [1]	84.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])

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Hydroquinone monomethyl ether (150-76-5)

LC50 - Fish [2]	28.5 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 - Crustacea [1]	3 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	54.7 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	19 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
ErC50 algae	54.7 mg/l Source: EHCA
LOEC (chronic)	1.45 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.68 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Hydroquinone monomethyl ether (150-76-5)

Partition coefficient n-octanol/water (Log Pow)	1.34
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation	: Disposal must be done according to official regulations.
Sewage disposal recommendations	: Do not dispose of waste into sewer.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Additional information	: Do not re-use empty containers.

SECTION 14: Transport information






In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 3276	UN 3276	UN 3276	UN 3276	UN 3276
14.2. UN proper shipping name				
NITRILES, LIQUID, TOXIC, N.O.S.	NITRILES, LIQUID, TOXIC, N.O.S.	Nitriles, liquid, toxic, n.o.s.	NITRILES, LIQUID, TOXIC, N.O.S.	NITRILES, LIQUID, TOXIC, N.O.S.

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ADR	IMDG	IATA	ADN	RID
Transport document description				
UN 3276 NITRILES, LIQUID, TOXIC, N.O.S. (2-CYANOETHYL METHACRYLATE), 6.1, III, (E)	UN 3276 NITRILES, LIQUID, TOXIC, N.O.S. (2-CYANOETHYL METHACRYLATE), 6.1, III	UN 3276 Nitriles, liquid, toxic, n.o.s. (2-Cyanoethyl methacrylate), 6.1, III	UN 3276 NITRILES, LIQUID, TOXIC, N.O.S. (2-CYANOETHYL METHACRYLATE), 6.1, III	UN 3276 NITRILES, LIQUID, TOXIC, N.O.S. (2-CYANOETHYL METHACRYLATE), 6.1, III
14.3. Transport hazard class(es)				
6.1	6.1	6.1	6.1	6.1
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	: T1
Special provisions (ADR)	: 274
Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T7
Portable tank and bulk container special provisions (ADR)	: TP1, TP28
Tank code (ADR)	: L4BH
Tank special provisions (ADR)	: TU15, TE19
Vehicle for tank carriage	: AT
Transport category (ADR)	: 2
Special provisions for carriage - Packages (ADR)	: V12
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13, CV28
Special provisions for carriage - Operation (ADR)	: S9
Hazard identification number (Kemler No.)	: 60
Orange plates	:



Tunnel restriction code (ADR)	: E
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Transport by sea

Special provisions (IMDG)	: 223, 274
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T7
Tank special provisions (IMDG)	: TP1, TP28

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EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-A
Stowage category (IMDG)	: A
Segregation (IMDG)	: SG35
Properties and observations (IMDG)	: Liquids, evolving toxic vapour. React with acids or acid fumes, evolving hydrogen cyanide, a highly toxic and flammable gas. Miscible with water. Toxic if swallowed, by skin contact or by inhalation.

Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y642
PCA limited quantity max net quantity (IATA)	: 2L
PCA packing instructions (IATA)	: 655
PCA max net quantity (IATA)	: 60L
CAO packing instructions (IATA)	: 663
CAO max net quantity (IATA)	: 220L
Special provisions (IATA)	: A3, A4, A137
ERG code (IATA)	: 6L

Inland waterway transport

Classification code (ADN)	: T1
Special provisions (ADN)	: 274, 802
Limited quantities (ADN)	: 5 L
Excepted quantities (ADN)	: E1
Equipment required (ADN)	: PP, EP, TOX, A
Ventilation (ADN)	: VE02
Number of blue cones/lights (ADN)	: 0

Rail transport

Classification code (RID)	: T1
Special provisions (RID)	: 274
Limited quantities (RID)	: 5L
Excepted quantities (RID)	: E1
Packing instructions (RID)	: P001, IBC03, LP01, R001
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T7
Portable tank and bulk container special provisions (RID)	: TP1, TP28
Tank codes for RID tanks (RID)	: L4BH
Special provisions for RID tanks (RID)	: TU15
Transport category (RID)	: 2
Special provisions for carriage – Packages (RID)	: W12
Special provisions for carriage - Loading, unloading and handling (RID)	: CW13, CW28, CW31
Colis express (express parcels) (RID)	: CE8
Hazard identification number (RID)	: 60

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)

Reference code	Applicable on	Entry title or description
3(b)	BIMAX® 2-CEMA ; 2-cyanoethyl methacrylate	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 2024/590)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

Germany

Air Quality Control (TA Luft)

Category	Class	Applicable on	Local name	Max. mass flow	Max. mass concentration
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15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor
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Full text of H- and EUH-statements:	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.

SDS EU (REACH Annex II) - Custom v22

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.

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