

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/30/2016

Reviewed on 09/30/2016

1 Identification

- **Product identifier**
- **Trade name:** LOWICRYL HM23, MONOMER G
- **Article number:** 14360(G)
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 Electron Microscopy Sciences
 1560 Industry Road
 USA-Hatfield, PA 19440
 Tel: 215-412-8400 Fax: 215-412-8450
 email: sgkcck@aol.com
 www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**
 ChemTrec 1-800-424-9300 Contract CCN7661
 1-703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02



GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

ethyl methacrylate

N-BUTYL METHACRYLATE, MONOMER

- **Hazard statements**

Highly flammable liquid and vapor.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

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May cause respiratory irritation.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wear protective gloves / eye protection / face protection.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing must not be allowed out of the workplace.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor if you feel unwell.

Wash contaminated clothing before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO₂, powder or water spray.

Take off contaminated clothing and wash it before reuse.

Store locked up.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 1

Fire = 3

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

97-63-2	ethyl methacrylate	50-100%
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N-BUTYL METHACRYLATE, MONOMER	25-50%
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4 First-aid measures

- **Description of first aid measures**
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect from heat.

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Protect against electrostatic charges.

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** *Store in a cool location.*
- **Information about storage in one common storage facility:** *Not required.*
- **Further information about storage conditions:**
 - Keep receptacle tightly sealed.*
 - Store in cool, dry conditions in well sealed receptacles.*
 - Protect from heat and direct sunlight.*
- **Specific end use(s)** *No further relevant information available.*

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** *No further data; see item 7.*
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
 - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.*
- **Additional information:** *The lists that were valid during the creation were used as basis.*
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.*
 - Immediately remove all soiled and contaminated clothing.*
 - Wash hands before breaks and at the end of work.*
 - Avoid contact with the eyes and skin.*
- **Breathing equipment:**
 - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.*
- **Protection of hands:**



Protective gloves

- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.*
- Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.*
- Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*
- **Material of gloves**
 - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.*
- **Penetration time of glove material**
 - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.*

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· **Eye protection:**

Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

· Form:	Liquid
· Color:	Colorless
· Odor:	uncharacteristic
· Odor threshold:	Not determined.

· **pH-value:** Not determined.· **Change in condition**

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	119 °C (246 °F)

· **Flash point:** 18 °C (64 °F)· **Flammability (solid, gaseous):** Not flammable.· **Ignition temperature:**· **Decomposition temperature:** Not determined.· **Auto igniting:** Product is not selfigniting.· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.· **Explosion limits:**

· Lower:	1.8 Vol %
· Upper:	Not determined.

· **Vapor pressure:** Not determined.· **Density at 20 °C (68 °F):** 0.9388 g/cm³ (7.834 lbs/gal)· **Relative density** Not determined.· **Vapor density** Not determined.· **Evaporation rate** Not determined.· **Solubility in / Miscibility with**· **Water:** Fully miscible.· **Partition coefficient (n-octanol/water):** Not determined.· **Viscosity:**

· Dynamic:	Not determined.
· Kinematic:	Not determined.

· **Solvent content:**

· Organic solvents:	0.0 %
· VOC content:	0.0 g/l / 0.00 lb/gl

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· **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

97-63-2 ethyl methacrylate

Oral	LD50	14800 mg/kg (rat)
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· **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

<ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA 	UN1993
<ul style="list-style-type: none"> · UN proper shipping name · DOT · ADR · IMDG, IATA 	Flammable liquids, n.o.s. (Ethyl methacrylate, stabilized, n-Butyl methacrylate, stabilized) 1993 Flammable liquids, n.o.s. (Ethyl methacrylate, stabilized, n-Butyl methacrylate, stabilized) FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, n-BUTYL METHACRYLATE, STABILIZED)
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT 	<div style="text-align: center;">  <p>3</p> </div>
<ul style="list-style-type: none"> · Class · Label 	3 Flammable liquids 3
<ul style="list-style-type: none"> · ADR, IMDG, IATA 	<div style="text-align: center;">  <p>3</p> </div>
<ul style="list-style-type: none"> · Class · Label 	3 Flammable liquids 3
<ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA 	II
<ul style="list-style-type: none"> · Environmental hazards: 	Not applicable.
<ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: 	Warning: Flammable liquids 33 F-E,S-E

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· Stowage Category	B
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1993 FLAMMABLE LIQUIDS, N.O.S. (ETHYL METHACRYLATE, STABILIZED, N-BUTYL METHACRYLATE, STABILIZED), 3, II

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS07

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

ethyl methacrylate

N-BUTYL METHACRYLATE, MONOMER

· **Hazard statements**

Highly flammable liquid and vapor.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

May cause respiratory irritation.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

Avoid breathing dust/fume/gas/mist/vapors/spray

Wear protective gloves / eye protection / face protection.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing must not be allowed out of the workplace.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor if you feel unwell.

Wash contaminated clothing before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO2, powder or water spray.

Take off contaminated clothing and wash it before reuse.

Store locked up.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 09/30/2016 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety **Health**

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Skin Sens. 1: Skin sensitisation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 30.09.2016

Revision: 30.09.2016

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

- **Product identifier**
- **Trade name:** LOWICRYL HM23, MONOMER G
- **Article number:** 14360(G)
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- ProSciTech Pty Ltd
11 Carlton Street, Kirwan QLD 4817 Australia
Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)
Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)
- Emgrid Australia Pty. Ltd.
P.O. Box 118
The Patch VIC 3792
Australia
Tel: 03 9752 1785
Fax: 03 9752 1784
Website: www.emgrid.com.au
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazards identification

- **Classification of the substance or mixture**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).

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· **Hazard pictograms**

GHS02 GHS07

· **Signal word** *Danger*· **Hazard-determining components of labelling:***ethyl methacrylate**N-BUTYL METHACRYLATE, MONOMER*· **Hazard statements***Highly flammable liquid and vapour.**Causes skin irritation.**Causes serious eye irritation.**May cause an allergic skin reaction.**May cause respiratory irritation.*· **Precautionary statements***Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**Use explosion-proof electrical/ventilating/lighting/equipment.**Avoid breathing dust/fume/gas/mist/vapours/spray.**Wear protective gloves / eye protection / face protection.**Ground/bond container and receiving equipment.**Use only non-sparking tools.**Take precautionary measures against static discharge.**Wash thoroughly after handling.**Use only outdoors or in a well-ventilated area.**Contaminated work clothing should not be allowed out of the workplace.**IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**Specific treatment (see on this label).**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**Call a POISON CENTER/doctor if you feel unwell.**Wash contaminated clothing before reuse.**If skin irritation or rash occurs: Get medical advice/attention.**If eye irritation persists: Get medical advice/attention.**In case of fire: Use for extinction: CO₂, powder or water spray.**Take off contaminated clothing and wash it before reuse.**Store locked up.**Store in a well-ventilated place. Keep container tightly closed.**Store in a well-ventilated place. Keep cool.**Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Other hazards**· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterisation:** *Mixtures*· **Description:** *Mixture of substances listed below with nonhazardous additions.*

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· Dangerous components:

97-63-2	ethyl methacrylate	50-100%
	N-BUTYL METHACRYLATE, MONOMER	25-50%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First aid measures

· Description of first aid measures**· After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** If symptoms persist consult doctor.

· Information for doctor:

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Firefighting measures

· Extinguishing media**· Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Special hazards arising from the substance or mixture** No further relevant information available.

· Advice for firefighters

· **Protective equipment:** No special measures required.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

· Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

· Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· Handling:**· Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

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- **Information about fire - and explosion protection:**
 Keep ignition sources away - Do not smoke.
 Protect from heat.
 Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
 Keep container tightly sealed.
 Store in cool, dry conditions in well sealed receptacles.
 Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
 The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 Keep away from foodstuffs, beverages and feed.
 Immediately remove all soiled and contaminated clothing
 Wash hands before breaks and at the end of work.
 Avoid contact with the eyes and skin.
- **Respiratory protection:**
 In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
 The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
 The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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AU

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according to 1907/2006/EC, Article 31

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Revision: 30.09.2016

Trade name: **LOWICRYL HM23, MONOMER G**

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· **Eye protection:**

Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

· Form:	Liquid
· Colour:	Colourless
· Odour:	Uncharacteristic.
· Odour threshold:	Not determined.

· **pH-value:** Not determined.· **Change in condition**

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	119 °C

· **Flash point:** 18 °C· **Flammability (solid, gaseous):** Not applicable.· **Ignition temperature:**· **Decomposition temperature:** Not determined.· **Self-igniting:** Product is not selfigniting.· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.· **Explosion limits:**

· Lower:	1.8 Vol %
· Upper:	Not determined.

· **Vapour pressure:** Not determined.

· Density at 20 °C:	0.9388 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· **Solubility in / Miscibility with water:** Fully miscible.· **Partition coefficient (n-octanol/water):** Not determined.· **Viscosity:**

· Dynamic:	Not determined.
· Kinematic:	Not determined.

· **Solvent content:**

· Organic solvents:	0.0 %
· VOC (EC)	0.00 %

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· **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**

· **LD/LC50 values relevant for classification:**

97-63-2 ethyl methacrylate

Oral	LD50	14800 mg/kg (rat)
------	------	-------------------

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** Sensitisation possible through skin contact.
- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

-AU-

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· UN-Number · ADG, IMDG, IATA	UN1993
· UN proper shipping name · ADG · IMDG, IATA	1993 FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, n-BUTYL METHACRYLATE, STABILIZED) FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, n-BUTYL METHACRYLATE, STABILIZED)
· Transport hazard class(es) · ADG, IMDG, IATA	
	
· Class · Label	3 Flammable liquids. 3
· Packing group · ADG, IMDG, IATA	II
· Environmental hazards:	Not applicable.
· Special precautions for user · Danger code (Kemler): · EMS Number: · Stowage Category	Warning: Flammable liquids. 33 F-E,S-E B
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADG · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category · Tunnel restriction code	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml 2 D/E

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AU

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Trade name: **LOWICRYL HM23, MONOMER G**

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<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p>
<ul style="list-style-type: none"> · UN "Model Regulation": 	<p>UN 1993 FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, N-BUTYL METHACRYLATE, STABILIZED), 3, II</p>

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Australian Inventory of Chemical Substances**

All ingredients are listed.

· **Standard for the Uniform Scheduling of Medicines and Poisons**

97-63-2 ethyl methacrylate

S5

· **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**



GHS02 GHS07

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

ethyl methacrylate

N-BUTYL METHACRYLATE, MONOMER

· **Hazard statements**

Highly flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

May cause respiratory irritation.

· **Precautionary statements**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wear protective gloves / eye protection / face protection.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing should not be allowed out of the workplace.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

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Trade name: LOWICRYL HM23, MONOMER G

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IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor if you feel unwell.

Wash contaminated clothing before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO₂, powder or water spray.

Take off contaminated clothing and wash it before reuse.

Store locked up.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category P5c FLAMMABLE LIQUIDS**

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/30/2016

Reviewed on 09/30/2016

1 Identification

- **Product identifier**
- **Trade name:** LOWICRYL HM23, MONOMER G
- **Article number:** 14360(G)
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 Electron Microscopy Sciences
 1560 Industry Road
 USA-Hatfield, PA 19440
 Tel: 215-412-8400 Fax: 215-412-8450
 email: sgkcck@aol.com
 www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**
 ChemTrec 1-800-424-9300 Contract CCN7661
 1-703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 2

H225 Highly flammable liquid and vapour.



GHS07

Skin Irritation - Category 2

H315 Causes skin irritation.

Eye Irritation - Category 2A

H319 Causes serious eye irritation.

Skin Sensitizer - Category 1

H317 May cause an allergic skin reaction.

Specific Target Organ Toxicity - Single Exposure -
Category 3

H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02



GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

ethyl methacrylate

N-BUTYL METHACRYLATE, MONOMER

- **Hazard statements**

Highly flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

(Contd. on page 2)

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Trade name: LOWICRYL HM23, MONOMER G

(Contd. of page 1)

May cause an allergic skin reaction.

May cause respiratory irritation.

· Precautionary statements

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Use explosion-proof [electrical/ventilating/lighting] equipment.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wear protective gloves/protective clothing/eye protection/face protection.

Ground and bond container and receiving equipment.

Use non-sparking tools.

Take actions to prevent static discharges.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing should not be allowed out of the workplace.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor if you feel unwell.

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO₂, powder or water spray.

Take off contaminated clothing and wash it before reuse.

Store locked up.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· Hazard description:

· WHMIS-symbols:

B2 - Flammable liquid

D2B - Toxic material causing other toxic effects



· Classification system:

· NFPA ratings (scale 0 - 4)



Health = 1

Fire = 3

Reactivity = 0

· HMIS-ratings (scale 0 - 4)

HEALTH	1
FIRE	3
REACTIVITY	0

Health = 1

Fire = 3

Reactivity = 0

3 Composition/information on ingredients

· Chemical characterization: Mixtures

· Description: Mixture of the substances listed below with nonhazardous additions.

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Trade name: LOWICRYL HM23, MONOMER G

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· Dangerous components:		
97-63-2	ethyl methacrylate	40-70% w/w
	N-BUTYL METHACRYLATE, MONOMER	15-40% w/w

4 First-aid measures

- **Description of first aid measures**
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

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Trade name: **LOWICRYL HM23, MONOMER G**

(Contd. of page 3)

- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect from heat.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

97-63-2 ethyl methacrylate

EL	Long-term value: 50 ppm
EV	Short-term value: 100 ppm Long-term value: 50 ppm

N-BUTYL METHACRYLATE, MONOMER

EL	Long-term value: 50 ppm
----	-------------------------

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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Trade name: **LOWICRYL HM23, MONOMER G**

(Contd. of page 4)

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Liquid
Color:	Colorless
Odor:	uncharacteristic
Odor threshold:	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	119 °C

- **Flash point:** 18 °C

- **Flammability (solid, gaseous):** Not flammable.

- **Ignition temperature:**

Decomposition temperature: Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- **Explosion limits:**

Lower:	1.8 Vol %
Upper:	Not determined.

- **Vapor pressure:** Not determined.

Density at 20 °C:	0.9388 g/cm ³
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.

- **Solubility in / Miscibility with**

Water: Fully miscible.

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**

Dynamic:	Not determined.
Kinematic:	Not determined.

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CA

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acc. to OSHA HCS

Printing date 09/30/2016

Reviewed on 09/30/2016

Trade name: LOWICRYL HM23, MONOMER G

(Contd. of page 5)

- **Solvent content:**
- **Organic solvents:** 0.0 %
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

97-63-2 ethyl methacrylate

Oral	LD50	14800 mg/kg (rat)
------	------	-------------------

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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Safety Data Sheet

acc. to OSHA HCS

Printing date 09/30/2016

Reviewed on 09/30/2016

Trade name: **LOWICRYL HM23, MONOMER G**



(Contd. of page 6)

- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· UN-Number	
· DOT, TDG, IMDG, IATA	UN1993
· UN proper shipping name	
· DOT	Flammable liquids, n.o.s. (Ethyl methacrylate, stabilized, n-Butyl methacrylate, stabilized)
· TDG	1993 Flammable liquids, n.o.s. (Ethyl methacrylate, stabilized, n-Butyl methacrylate, stabilized)
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, n-BUTYL METHACRYLATE, STABILIZED)
· Transport hazard class(es)	
· DOT	
	
· Class	3 Flammable liquids
· Label	3
· TDG, IMDG, IATA	
	
· Class	3 Flammable liquids
· Label	3
· Packing group	
· DOT, TDG, IMDG, IATA	II
· Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Flammable liquids
· Danger code (Kemler):	33
· EMS Number:	F-E,S-E

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Reviewed on 09/30/2016

Trade name: **LOWICRYL HM23, MONOMER G**

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· Stowage Category	B
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	<i>Not applicable.</i>
· Transport/Additional information:	
· DOT	
· Quantity limitations	<i>On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L</i>
· TDG	
· Excepted quantities (EQ)	<i>Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</i>
· IMDG	
· Limited quantities (LQ)	<i>1L</i>
· Excepted quantities (EQ)	<i>Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</i>
· UN "Model Regulation":	<i>UN 1993 FLAMMABLE LIQUIDS, N.O.S. (ETHYL METHACRYLATE, STABILIZED, N-BUTYL METHACRYLATE, STABILIZED), 3, II</i>

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**

All ingredients are listed.

· **Canadian Ingredient Disclosure list (limit 0.1%)**

97-63-2 | ethyl methacrylate

· **Canadian Ingredient Disclosure list (limit 1%)**

None of the ingredients is listed.

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS07

(Contd. on page 9)

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Reviewed on 09/30/2016

Trade name: LOWICRYL HM23, MONOMER G

(Contd. of page 8)

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

ethyl methacrylate

N-BUTYL METHACRYLATE, MONOMER

· **Hazard statements**

Highly flammable liquid and vapour.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

May cause respiratory irritation.

· **Precautionary statements**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Use explosion-proof [electrical/ventilating/lighting] equipment.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wear protective gloves/protective clothing/eye protection/face protection.

Ground and bond container and receiving equipment.

Use non-sparking tools.

Take actions to prevent static discharges.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing should not be allowed out of the workplace.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor if you feel unwell.

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO₂, powder or water spray.

Take off contaminated clothing and wash it before reuse.

Store locked up.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 09/30/2016 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 30.09.2016

Revision: 30.09.2016

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

- **1.1 Product identifier**
- **Trade name:** LOWICRYL HM23, MONOMER G
- **Article number:** 14360(G)
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02 GHS07

- **Signal word** *Danger*
- **Hazard-determining components of labelling:**
ethyl methacrylate
N-BUTYL METHACRYLATE, MONOMER

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· Hazard statements

- H225 Highly flammable liquid and vapour.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H317 May cause an allergic skin reaction.
- H335 May cause respiratory irritation.

· Precautionary statements

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P321 Specific treatment (see on this label).
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· 2.3 Other hazards**· Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients**· 3.2 Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 97-63-2 EINECS: 202-597-5	ethyl methacrylate ⚠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; ⚠ Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	50-100%
	N-BUTYL METHACRYLATE, MONOMER ⚠ Flam. Liq. 3, H226; ⚠ Skin Irrit. 2, H315; ⚠ Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	25-50%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures**· 4.1 Description of first aid measures****· After inhalation:**

- Supply fresh air and to be sure call for a doctor.
- In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· After eye contact:

- Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** If symptoms persist consult doctor.

· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**

- No further relevant information available.

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SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture** *No further relevant information available.*
- **5.3 Advice for firefighters**
- **Protective equipment:** *No special measures required.*

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
*Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.*
- **6.3 Methods and material for containment and cleaning up:**
*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.*
- **6.4 Reference to other sections**
*See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.*

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
*Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.*
- **Information about fire - and explosion protection:**
*Keep ignition sources away - Do not smoke.
Protect from heat.
Protect against electrostatic charges.*
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** *Store in a cool location.*
- **Information about storage in one common storage facility:** *Not required.*
- **Further information about storage conditions:**
*Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.*
- **7.3 Specific end use(s)** *No further relevant information available.*

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** *No further data; see item 7.*
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Liquid

Colour: Colourless

· **Odour:** Uncharacteristic.

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 119 °C

· **Flash point:** 18 °C

· **Flammability (solid, gaseous):** Not applicable.

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· Ignition temperature:	
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	1.8 Vol %
Upper:	Not determined.
· Vapour pressure:	Not determined.
· Density at 20 °C:	0.9388 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
VOC (EC)	0.00 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**

97-63-2 ethyl methacrylate

Oral	LD50	14800 mg/kg (rat)
------	------	-------------------

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.

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- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
May cause respiratory irritation.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- | | |
|---------------------------------------|--|
| · 14.1 UN-Number | |
| · ADR, IMDG, IATA | UN1993 |
| · 14.2 UN proper shipping name | |
| · ADR | 1993 FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, n-BUTYL METHACRYLATE, STABILIZED) |
| · IMDG, IATA | FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, n-BUTYL METHACRYLATE, STABILIZED) |

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· 14.3 Transport hazard class(es)

· ADR, IMDG, IATA



· Class 3 Flammable liquids.
· Label 3

· 14.4 Packing group

· ADR, IMDG, IATA II

· 14.5 Environmental hazards: Not applicable.

· 14.6 Special precautions for user Warning: Flammable liquids.

· Danger code (Kemler): 33

· EMS Number: F-E, S-E

· Stowage Category B

· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.

· Transport/Additional information:

· ADR

· Limited quantities (LQ) 1L

· Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· Transport category 2

· Tunnel restriction code D/E

· IMDG

· Limited quantities (LQ) 1L

· Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· UN "Model Regulation": UN 1993 FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, N-BUTYL METHACRYLATE, STABILIZED), 3, II

SECTION 15: Regulatory information

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

· Directive 2012/18/EU

· Named dangerous substances - ANNEX I None of the ingredients is listed.

· Seveso category P5c FLAMMABLE LIQUIDS

· Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t

· Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t

· REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

化学品安全技术说明书

根据 GB/T 16483-2008, GB/T 17519-2013

打印日期 2016.09.30



在 2016.09.30 审核

1 化学品及企业标识

- 产品识别者
- 化学品中文(英文)名称, 化学品俗名或商品名: LOWICRYL HM23, MONOMER G
- 商品编号: 14360(G)
- 相应纯物质或者混合物的相关下位用途及禁止用途 无相关详细资料。
- 原材料的应用/准备工作进行 实验室化学物
- 安全技术说明书内供应商详细信息
- 企业名称:
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- 可获取更多资料的部门: Product safety department
- 紧急联系电话号码:
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 危险性概述

- 紧急情况概述:
无色的, 液体, 高度易燃液体和蒸气。引起皮肤刺激。引起严重的眼睛刺激。可能引起皮肤过敏反应。可刺激呼吸道。
- GHS危险性类别

	火焰		
易燃液体	第2类	H225	高度易燃液体和蒸气
			
皮肤腐蚀/刺激	第2类	H315	引起皮肤刺激
严重眼损伤/眼刺激	类别2A	H319	引起严重的眼睛刺激
敏化(皮肤)	第1类	H317	可能引起皮肤过敏反应
特定靶器官系统毒性 (单次接触)	第3类	H335	可刺激呼吸道。

- 标签因素
- GHS卷标元素 本产品根据化学物质分类及标记全球协调制度(GHS)进行了分类及标记。
- 图示



- 名称 危险
- 标签上辨别危险的成份:
异丁烯酸乙酯
N-BUTYL METHACRYLATE, MONOMER

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· 危险字句

高度易燃液体和蒸气
引起皮肤刺激
引起严重的眼睛刺激
可能引起皮肤过敏反应
可刺激呼吸道。

· 警戒字句

· 预防措施

远离热源/火花/明火/热表面。-禁止吸烟。

· 事故响应

如皮肤(或头发)沾染 : 立即脱掉所有沾染的衣服。用水清洗皮肤/淋浴。
如进入眼睛 : 用水小心冲洗几分钟。如戴隐型眼镜并可方便地取出, 取出隐型眼镜。继续冲洗。
具体治疗(见本标签上的)

· 安全储存

存放处须加锁。

· 废弃处置

按照本地 / 地区 / 国家 / 国际规例处理内含物 / 容器。

· 其他有害性

· PBT(残留性、生物浓缩性、毒性物质) 及 vPvB(高残留性、高生物浓缩性物质)评价结果
· PBT(残留性、生物浓缩性、毒性物质) 不适用的
· vPvB(高残留性、高生物浓缩性物质): 不适用的

3 成分/组成信息

· 混合物

· 描述: 由以下含有无害添加剂的成分组成的混合物

· 危险的成分:

97-63-2	异丁烯酸乙酯 ⚠ 易燃液体 第2类, H225; ⚠ 皮肤腐蚀/刺激 第2类, H315; 严重眼睛损伤/眼睛刺激性 第2类, H319; 敏化(皮肤) 第1类, H317; 特定靶器官系统毒性(单次接触) 第3类, H335	50-100%
	N-BUTYL METHACRYLATE, MONOMER ⚠ 易燃液体 第3类, H226; ⚠ 皮肤腐蚀/刺激 第2类, H315; 严重眼睛损伤/眼睛刺激性 第2类, H319; 敏化(皮肤) 第1类, H317; 特定靶器官系统毒性(单次接触) 第3类, H335	25-50%

4 急救措施

· 应急措施要领

· 吸入:

供给新鲜空气并且确保会叫医生。
万一病人不清醒时, 请让病人侧躺以便移动。

· 皮肤接触: 马上用水和肥皂进行彻底的冲洗。

· 眼睛接触: 张开眼睛在流水下冲洗数分钟。如果症状仍然持续, 请咨询医生。

· 食入: 如果症状仍然持续, 请咨询医生。

· 给医生的资料:

· 最重要的急慢性症状及其影响 无相关详细资料。

· 需要及时的医疗处理及特别处理的症状 无相关详细资料。

CN

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5 消防措施

- **灭火方法**
- **灭火的方法和灭火剂:** 二氧化碳 (CO₂)、灭火粉末或洒水. 使用洒水或抗酒精泡沫灭火剂扑灭较大的火种.
- **特别危险性** 无相关详细资料.
- **特殊灭火方法**
- **消防人员特殊的防护装备:** 没有要求特别的措施.

6 泄漏应急处理

- **保护措施** 带上保护仪器. 让未受到保护的人们远离.
- **环境保护措施:**
 - 用大量的水进行稀释.
 - 切勿让其进入下水道/水面或地下水.
- **密封及净化方法和材料:**
 - 吸收液体粘合原料 (沙粒、硅藻土、酸性粘合剂、通用粘合剂、锯屑).
 - 确保有足够的通风装置.
- **参照其他部分**
 - 有关安全处理的资料请参阅第 7 节.
 - 有关个人防护装备的资料请参阅第 8 节.
 - 有关弃置的资料请参阅第 13 节.

7 操作处置与储存

- **操作处置**
- **储存**
 - 确保工作间有良好的通风/排气装置.
 - 防止气溶胶的形成.
- **有关火灾及防止爆炸的资料:**
 - 远离火源 - 切勿吸烟.
 - 防热.
 - 防静电.
- **混合危险性等安全储存条件**
- **储存:**
 - **储存库和容器须要达到的要求:** 储存在阴凉的位置.
 - **有关使用一个普通的储存设施来储存的资料:** 不需要.
 - **有关储存条件的更多资料:**
 - 将容器密封.
 - 储存密封的贮藏器内,并放在阴凉、干爽的位置.
 - 免受接触热力和直接受阳光照射.
 - **具体的最终用户** 无相关详细资料.

8 接触控制和个体防护

- **工程控制方法:** 没有进一步数据;见第 7 项.
- **控制变数**
- **在工作场需要监控的限值成分** 该产品不含任何必须在工作间受到监视的重要价值的材料.
- **额外的资料:** 制作期间有效的清单将作为基础来使用.

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· **泄漏控制**

· **个人防护设备:**

· **一般保护和卫生措施:**

远离食品、饮料和饲料。

立即除去所有的不洁的和被污染的衣服。

在休息之前和工作完毕后请清洗双手。

避免和眼睛及皮肤接触。

· **呼吸系统防护:**

如果曾短暂接触或在低污染的情况下, 请使用呼吸过滤装置。如果曾深入或较长时间接触, 请使用独立的呼吸保护装置。

· **手防护:**



保护手套

手套的物料必须是不渗透性的, 且能抵抗该产品/物质/添加剂。

基于缺乏测试, 对于产品/制剂/化学混合物, 并不会提供手套材料的建议

选择手套材料时, 请注意材料的渗透时间, 渗透率和降解参数

· **手套材料**

选择合适的手套不单取决于材料, 亦取决于质量特征, 以及来自哪一间生产厂家, 因为该产品是由很多材料配制而成, 手套材料的抵抗力并不可预计, 所以, 必须在使用之前进行检查

· **渗入手套材料的时间** 请向劳保手套生产厂家获取准确的破裂时间并观察实际的破裂时间

· **眼睛防护:**



密封的护目镜

9 理化特性

· **有关基本物理及化学特性的信息**

· **一般说明**

· **外观:**

· **形状:** 液体

· **颜色:** 无色的

· **气味:** 无特性的

· **嗅觉阈限** 未决定。

· **pH值:** 未决定。

· **条件的更改**

· **熔点:** 未确定的

· **沸点/初沸点和沸程:** 119 °C

· **闪点:** 18 °C

· **可燃性(固体、气体):** 不适用的

· **点火温度:**

· **分解温度:** 未决定。

· **自燃温度:** 该产品是不自燃的

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在 2016.09.30 审核

化学品中文(英文)名称, 化学品俗名或商品名 : LOWICRYL HM23, MONOMER G

(在 4 页继续)

· **爆炸的危险性:** 该产品并非爆炸性的然而有可能形成可爆炸性的空气/蒸汽混合物

· **爆炸极限:**

· 较低: 1.8 Vol %

· 较高: 未决定.

· **蒸气压:** 未决定.

· **密度在 20 °C:** 0.9388 g/cm³

· **相对密度** 未决定.

· **蒸气密度** 未决定.

· **蒸发速率** 未决定.

· **溶解性**

· **水:** 完全可拌和的

· **n-辛醇/水分配系数:** 未决定.

· **黏性:**

· **动态:** 未决定.

· **运动学的:** 未决定.

· **溶剂成份:**

· **有机溶剂:** 0.0 %

· **其他信息** 无相关详细资料。

10 稳定性和反应性

· **反应性** 无相关详细资料。

· **稳定性**

· **热分解/要避免的情况:** 如果遵照规格使用则不会分解.

· **有害反应可能性** 未有已知的危险反应.

· **应避免的条件** 无相关详细资料。

· **不相容的物质:** 无相关详细资料。

· **危险的分解产物:** 未知有危险的分解产品.

11 毒理学信息

· **对毒性学影响的信息**

· **急性毒性:**

· **与分类相关的 LD/LC50 值:**

97-63-2 异丁烯酸乙酯

口腔	LD50	14800 mg/kg (rat)
----	------	-------------------

· **主要的刺激性影响:**

· **皮肤:** 刺激皮肤和粘膜.

· **在眼睛上面:** 刺激的影响.

· **致敏作用:** 通过皮肤接触可能造成敏化作用.

· **更多毒物的资料:**

根据有关配制的一般欧盟分类指南的计算方法(刊印在最新版本),该产品显示以下的危险:

刺激性的

CN

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12 生态学信息

- 生态毒性
- 水生毒性: 无相关详细资料。
- 持久性和降解性 无相关详细资料。
- 环境系统习性:
- 潜在的生物累积性 无相关详细资料。
- 土壤内移动性 无相关详细资料。
- 额外的生态学资料:
- 总括注解:
水危害级别 1(德国规例) (通过名单进行自我评估): 对水是稍微危害的
不要让未稀释或大量的产品接触地下水、水道或者污水系统。
- PBT(残留性、生物浓缩性、毒性物质) 及 vPvB(高残留性、高生物浓缩性物质)评价结果
- PBT(残留性、生物浓缩性、毒性物质) 不适用的
- vPvB(高残留性、高生物浓缩性物质): 不适用的
- 其他副作用 无相关详细资料。

13 废弃处置

- 废弃处置方法
- 建议: 不能将该产品和家居垃圾一起丢弃. 不要让该产品接触污水系统。
- 受污染的容器和包装:
- 建议: 必须根据官方的规章来丢弃。
- 建议的清洗剂: 如有必要请使用水及清洁剂进行清洁。

14 运输信息

· 联合国危险货物编号(UN号)	
· ADR, IMDG, IATA	UN1993
· UN适当装船名	
· ADR	1993 FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, n-BUTYL METHACRYLATE, STABILIZED)
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, n-BUTYL METHACRYLATE, STABILIZED)
· 运输危险等级	
· ADR, IMDG, IATA	
	
· 级别	3 可燃液体
· 标签	3
· 包装组别	
· ADR, IMDG, IATA	II
· 危害环境:	不适用的

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· 用户特别预防措施	警告: 可燃液体
· 危险编码:	33
· EMS 号码:	F-E,S-E
· Stowage Category	B
· MARPOL73/78(针对船舶引起的海洋污染预防协议)附件书2及根据IBC Code(国际装船货物编码)的大量运送	不适用的
· 运输/额外的资料:	
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "标准规定":	UN 1993 FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, N-BUTYL METHACRYLATE, STABILIZED), 3, II

15 法规信息

- 对相应纯物质或者混合物的安全、保健及环境法规/法律
- 新化学物质环境管理办法

- 中国现有化学物质名录

列出所有成分

- GHS卷标元素 本产品根据化学物质分类及标记全球协调制度(GHS)进行了分类及标记。
- 图示



GHS02 GHS07

- 名称 危险
- 标签上辨别危险的成份:
异丁烯酸乙酯
N-BUTYL METHACRYLATE, MONOMER
- 危险字句
高度易燃液体和蒸气
引起皮肤刺激
引起严重的眼睛刺激
可能引起皮肤过敏性反应
可刺激呼吸道。
- 警戒字句
- 预防措施
远离热源/火花/明火/热表面。-禁止吸烟。

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· **事故响应**

如皮肤(或头发)沾染 : 立即脱掉所有沾染的衣服。用水清洗皮肤/淋浴。
如进入眼睛 : 用水小心冲洗几分钟。如戴隐型眼镜并可方便地取出, 取出隐型眼镜。继续冲洗。
具体治疗(见本标签上的)

· **安全储存**

存放处须加锁。

· **废弃处置**

按照本地 / 地区 / 国家 / 国际规例处理内含物 / 容器。

· **化学物质安全性评价:** 尚未进行化学物质安全性评价

16 其他信息

该资料是基于我们目前的知识。然而,这并不构成对任何特定产品特性的担保并且不建立一个法律上有效的合同关系。

· **缩写:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: 持久性生物累积性有毒物质

vPvB: very Persistent and very Bioaccumulative

易燃液体 第2类: Flammable liquids – Category 2

易燃液体 第3类: Flammable liquids – Category 3

皮肤腐蚀/刺激 第2类: Skin corrosion/irritation – Category 2

严重眼睛损伤/眼睛刺激性 第2类: Serious eye damage/eye irritation – Category 2

严重眼损伤/眼刺激 类别2A: Serious eye damage/eye irritation – Category 2A

敏化(皮肤) 第1类: Skin sensitisation – Category 1

特定靶器官系统毒性 (单次接触) 第3类: Specific target organ toxicity (single exposure) – Category 3

CN

Bezpečnostní list podle 1907/2006/ES, Článek 31

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ODDÍL 1: Identifikace látky/směsi a společnosti/podniku

- **1.1 Identifikátor výrobku**
- **Obchodní označení:** LOWICRYL HM23, MONOMER G
- **Číslo výrobku:** 14360(G)
- **1.2 Příslušná určená použití látky nebo směsi a nedoporučená použití**
Další relevantní informace nejsou k dispozici.
- **Použití látky / přípravku** Laboratorní chemikálie
- **1.3 Podrobné údaje o dodavateli bezpečnostního listu**
- **Identifikace výrobce/dovozce:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Obor poskytující informace:** Product safety department
- **1.4 Telefonní číslo pro naléhavé situace:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

ODDÍL 2: Identifikace nebezpečnosti

- **2.1 Klasifikace látky nebo směsi**
- **Klasifikace v souladu s nařízením (ES) č. 1272/2008**



GHS02 plamen

Flam. Liq. 2 H225 Vysoce hořlavá kapalina a páry.



GHS07

Skin Irrit. 2 H315 Dráždí kůži.

Eye Irrit. 2 H319 Způsobuje vážné podráždění očí.

Skin Sens. 1 H317 Může vyvolat alergickou kožní reakci.

STOT SE 3 H335 Může způsobit podráždění dýchacích cest.

- **2.2 Prvky označení**
- **Označování v souladu s nařízením (ES) č. 1272/2008** Produkt je klasifikován a označen podle nařízení CLP.
- **Výstražné symboly nebezpečnosti**



GHS02



GHS07

- **Signální slovo** Nebezpečí
- **Nebezpečné komponenty k etiketování:**
ethyl-methakrylát
N-BUTYL METHACRYLATE, MONOMER
- **Standardní věty o nebezpečnosti**
H225 Vysoce hořlavá kapalina a páry.

(pokračování na straně 2)

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Obchodní označení: LOWICRYL HM23, MONOMER G

(pokračování strany 1)

H315 Dráždí kůži.

H319 Způsobuje vážné podráždění očí.

H317 Může vyvolat alergickou kožní reakci.

H335 Může způsobit podráždění dýchacích cest.

- **Pokyny pro bezpečné zacházení**

P210 Chraňte před teplem, horkými povrchy, jiskrami, otevřeným plamenem a jinými zdroji zapálení. Zákaz kouření.

P303+P361+P353 PŘI STYKU S KŮŽÍ (nebo s vlasy): Veškeré kontaminované části oděvu okamžitě svlékněte. Opláchněte kůži vodou/osprchujte.

P305+P351+P338 PŘI ZASAŽENÍ OČÍ: Několik minut opatrně vyplachujte vodou. Vyjměte kontaktní čočky, jsou-li nasazeny a pokud je lze vyjmout snadno. Pokračujte ve vyplachování.

P321 Odborné ošetření (viz na tomto štítku).

P405 Skladujte uzamčené.

P501 Obsah/nádobu likvidujte v souladu s místními/regionálními/národními/mezinárodními předpisy.

- **2.3 Další nebezpečnost**

- **Výsledky posouzení PBT a vPvB**

- **PBT:** Nedá se použít.

- **vPvB:** Nedá se použít.

ODDÍL 3: Složení/informace o složkách

- **3.2 Chemická charakteristika: Směsi**

- **Popis:** Směs obsahuje následné látky bez nebezpečných příměsí.

- **Výrobek obsahuje tyto nebezpečné látky:**

CAS: 97-63-2 EINECS: 202-597-5	ethyl-methakrylát ----- ☠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	50-100%
	N-BUTYL METHACRYLATE, MONOMER ----- ☠ Flam. Liq. 3, H226; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	25-50%

- **Dodatečná upozornění:** Znění uvedených údajů o nebezpečnosti látky je uvedeno v kapitole 16.

ODDÍL 4: Pokyny pro první pomoc

- **4.1 Popis první pomoci**

- **Při nadýchání:**

Bohatý přívod čerstvého vzduchu a pro jistotu vyhledat lékaře.

Při bezvědomí uložit a přepravit ve stabilní poloze na boku.

- **Při styku s kůží:** Ihned omýt vodou a mýdlem a dobře opláchnout.

- **Při zasažení očí:**

Oči s otevřenými víčky vyplachovat po více minut proudem tekoucí vody. Při přetrvávajících potížích se poradit s lékařem.

- **Při požití:** Při přetrvávajících potížích konzultovat s lékařem.

- **4.2 Nejdůležitější akutní a opožděné symptomy a účinky** Další relevantní informace nejsou k dispozici.

- **4.3 Pokyn týkající se okamžité lékařské pomoci a zvláštního ošetření**

Další relevantní informace nejsou k dispozici.

CZ

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(pokračování strany 2)

ODDÍL 5: Opatření pro hašení požáru

- **5.1 Hasiva**
- **Vhodná hasiva:**
CO₂, hasící prášek nebo rozestříkované vodní paprsky. Větší ohně zdolat rozestříkovanými vodními paprsky nebo pěnou odolnou vůči alkoholu.
- **5.2 Zvláštní nebezpečnost vyplývající z látky nebo směsi** Další relevantní informace nejsou k dispozici.
- **5.3 Pokyny pro hasiče**
- **Zvláštní ochranné prostředky pro hasiče:** Nejsou nutná žádná zvláštní opatření.

ODDÍL 6: Opatření v případě náhodného úniku

- **6.1 Opatření na ochranu osob, ochranné prostředky a nouzové postupy**
Nosit ochrannou výstroj. Nechráněné osoby se nesmí přibližovat.
- **6.2 Opatření na ochranu životního prostředí:**
Zředit velkým množstvím vody.
Nenechat proniknout do kanalizace/povrchových vod/podzemních vod.
- **6.3 Metody a materiál pro omezení úniku a pro čištění:**
Sebrat s materiály, vážícími kapaliny (písek, štěrkový písek, pojidla kyselin, univerzální pojidla, piliny).
Zajistit dostatečné větrání.
- **6.4 Odkaz na jiné oddíly**
Informace o bezpečnému zacházení viz kapitola 7.
Informace o osobní ochranné výstroji viz kapitola 8.
Informace k odstranění viz kapitola 13.

ODDÍL 7: Zacházení a skladování

- **7.1 Opatření pro bezpečné zacházení**
Na pracovišti zabezpečit dobré větrání a odsávání.
Zamezit vytváření aerosolů.
- **Upozornění k ochraně před ohněm a explozí:**
Nepřibližovat se ze zápalnými zdroji - nekouřit.
Chránit před horkem.
Zajistit proti elektrostatickému náboji.
- **7.2 Podmínky pro bezpečné skladování látek a směsí včetně neslučitelných látek a směsí**
- **Pokyny pro skladování:**
- **Požadavky na skladovací prostory a nádoby:** Skladovat na chladném místě.
- **Upozornění k hromadnému skladování:** Není nutné.
- **Další údaje k podmínkám skladování:**
Nádrž držet neprodyšně uzavřenou.
Skladovat v dobře uzavřených nádobách v chladu a suchu.
Chránit před horkem a přímým slunečním světlem.
- **7.3 Specifické konečné / specifická konečná použití** Další relevantní informace nejsou k dispozici.

ODDÍL 8: Omezování expozice / osobní ochranné prostředky

- **Technická opatření:** Žádné další údaje, viz bod 7.

(pokračování na straně 4)

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(pokračování strany 3)

- **8.1 Kontrolní parametry**
- **Kontrolní parametry:**
Produkt neobsahuje žádná relevantní množství látek, u kterých se musí kontrolovat hraniční hodnoty na pracovišti.
- **Další upozornění:** Jako podklad sloužily při zhotovení platné listiny.
- **8.2 Omezování expozice**
- **Osobní ochranné prostředky:**
- **Všeobecná ochranná a hygienická opatření:**
Zdržovat od potravin, nápojů a krmiv.
Zašpiněné, nasáknuté šaty ihned vysvléci.
Před přestávkami a po práci umýt ruce.
Zamezit styku s pokožkou a zrakem.
- **Ochrana dýchacích orgánů:**
Při krátkodobém nebo nízkém zatížení použít dýchací přístroj s filtrem, při intenzivním nebo delším zatížení se musí použít dýchací přístroj nezávislý na okolním vzduchu.
- **Ochrana rukou:**



Ochranné rukavice

Materiál rukavic musí být nepropustný a odolný proti produktu / látce / směsi.
Vzhledem k tomu, že chybí testy, není možné doporučit materiál rukavic pro produkt / přípravek / chemickou směs.
Výběr materiálu rukavic proveďte podle času průniku, permeability a degradace.

- **Materiál rukavic**
Správný výběr rukavic nezávisí jen na materiálu, ale také na dalších kritériích, která se liší podle výrobce. Protože je výrobek směs více látek, nelze materiál rukavic předem vypočítat a je nutno udělat před použitím zkoušku.
- **Doba průniku materiálem rukavic**
Je nutno u výrobce rukavic zjistit a dodržovat přesné časy průniku materiálem ochranných rukavic.
- **Ochrana očí:**



Uzavřené ochranné brýle

ODDÍL 9: Fyzikální a chemické vlastnosti

- **9.1 Informace o základních fyzikálních a chemických vlastnostech**
- **Všeobecné údaje**
- **Vzhled:**

Skupenství:	Tekutina
Barva:	Bezbarvá
- **Zápach (vůně):** Není charakteristický.
- **Prahová hodnota zápachu:** Není určeno.
- **Hodnota pH:** Není určeno.
- **Změna stavu**

Teplota (rozmezí teplot) tání:	Není určeno.
Teplota (rozmezí teplot) varu:	119 °C
- **Bod vzplanutí:** 18 °C

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· Zápalnost (tuhé, plynné skupenství):	Nedá se použít.
· Zápalná teplota:	
Teplota rozkladu:	Není určeno.
· Samozápalnost:	Produkt není samozápalný.
· Nebezpečí exploze:	I když produktu nehrozí nebezpečí exploze, je přesto možné nebezpečí exploze ve směsi par se vzduchem.
· Meze výbušnosti:	
Dolní mez:	1,8 Vol %
Horní mez:	Není určeno.
· Tenze par:	Není určeno.
· Hustota při 20 °C:	0,9388 g/cm ³
· Relativní hustota	Není určeno.
· Hustota par	Není určeno.
· Rychlost odpařování	Není určeno.
· Rozpustnost ve / směsitelnost s vodě:	Úplně mísitelná.
· Rozdělovací koeficient n-oktanol/voda:	Není určeno.
· Viskozita:	
Dynamicky:	Není určeno.
Kinematicky:	Není určeno.
· Obsah ředidel:	
Organická ředidla:	0,0 %
VOC (EC)	0,00 %
· 9.2 Další informace	Další relevantní informace nejsou k dispozici.

ODDÍL 10: Stálost a reaktivita

- **10.1 Reaktivita** Další relevantní informace nejsou k dispozici.
- **10.2 Chemická stabilita**
- **Termický rozklad / Podmínky, kterých je nutno se vyvarovat:**
Nedochází k rozkladu při doporučeném způsobu použití.
- **10.3 Možnost nebezpečných reakcí** Žádné nebezpečné reakce nejsou známy.
- **10.4 Podmínky, kterým je třeba zabránit** Další relevantní informace nejsou k dispozici.
- **10.5 Neslučitelné materiály:** Další relevantní informace nejsou k dispozici.
- **10.6 Nebezpečné produkty rozkladu:** Nejsou známy žádné nebezpečné produkty při rozkladu.

ODDÍL 11: Toxikologické informace

- **11.1 Informace o toxikologických účincích**
- **Akutní toxicita** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

· **Zařazení relevantní hodnoty LD/LC 50:**

97-63-2 ethyl-methakrylát

Orálně	LD50	14800 mg/kg (rat)
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- **Primární dráždivé účinky:**
- **Žíravost/dráždivost pro kůži**
Dráždí kůži.
- **Vážné poškození očí / podráždění očí**
Způsobuje vážné podráždění očí.
- **Senzibilizace dýchacích cest / senzibilizace kůže**
Může vyvolat alergickou kožní reakci.
- **Účinky CMR (karcinogenita, mutagenita a toxicita pro reprodukci)**
- **Mutagenita v zárodečných buňkách** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Karcinogenita** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Toxicita pro reprodukci** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Toxicita pro specifické cílové orgány – jednorázová expozice**
Může způsobit podráždění dýchacích cest.
- **Toxicita pro specifické cílové orgány – opakovaná expozice**
Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Nebezpečnost při vdechnutí** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

ODDÍL 12: Ekologické informace

- **12.1 Toxicita**
- **Aquatická toxicita:** Další relevantní informace nejsou k dispozici.
- **12.2 Perzistence a rozložitelnost** Další relevantní informace nejsou k dispozici.
- **12.3 Bioakumulační potenciál** Další relevantní informace nejsou k dispozici.
- **12.4 Mobilita v půdě** Další relevantní informace nejsou k dispozici.
- **Další ekologické údaje:**
- **Všeobecná upozornění:**
Třída ohrožení vody 1 (Samozařazení): slabé ohrožení vody
Nesmí se dostat nezředitelný nebo ve větším množství do spodní vody, povodí nebo kanalizace.
- **12.5 Výsledky posouzení PBT a vPvB**
- **PBT:** Nedá se použít.
- **vPvB:** Nedá se použít.
- **12.6 Jiné nepříznivé účinky** Další relevantní informace nejsou k dispozici.

ODDÍL 13: Pokyny pro odstraňování

- **13.1 Metody nakládání s odpady**
- **Doporučení:** Nesmí se odstraňovat společně s odpady z domácnosti. Nepřipustit únik do kanalizace.
- **Kontaminované obaly:**
- **Doporučení:** Odstranění podle příslušných předpisů.
- **Doporučený čisticí prostředek:** Voda, případně s přísadami čisticích prostředků.

ODDÍL 14: Informace pro přepravu

- **14.1 UN číslo**
- **ADR, IMDG, IATA**

UN1993

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<ul style="list-style-type: none"> · 14.2 Oficiální (OSN) pojmenování pro přepravu · ADR · IMDG, IATA 	<p>1993 LÁTKA HOŘLAVÁ, KAPALNÁ, J.N. (ETHYLMETHAKRYLÁT, STABILIZOVANÝ, n-BUTYLMETHAKRYLÁT, STABILIZOVANÝ) FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, n-BUTYL METHACRYLATE, STABILIZED)</p>
<ul style="list-style-type: none"> · 14.3 Třída/třídy nebezpečnosti pro přepravu · ADR, IMDG, IATA 	
	
<ul style="list-style-type: none"> · třída · Etiketa 	<p>3 Hořlavé kapaliny 3</p>
<ul style="list-style-type: none"> · 14.4 Obalová skupina · ADR, IMDG, IATA 	<p>II</p>
<ul style="list-style-type: none"> · 14.5 Nebezpečnost pro životní prostředí: 	<p>Nedá se použít.</p>
<ul style="list-style-type: none"> · 14.6 Zvláštní bezpečnostní opatření pro uživatele · Kemlerovo číslo: · EMS-skupina: · Stowage Category 	<p>Varování: Hořlavé kapaliny 33 F-E, S-E B</p>
<ul style="list-style-type: none"> · 14.7 Hromadná přeprava podle přílohy II úmluvy MARPOL a předpisu IBC 	<p>Nedá se použít.</p>
<p>· Přeprava/další údaje:</p>	
<ul style="list-style-type: none"> · ADR · Omezené množství (LQ) · Vyňatá množství (EQ) · Přepavní kategorie · Kód omezení pro tunely: 	<p>1L Kód: E2 Nejvyšší čisté množství na vnitřní obal: 30 ml Nejvyšší čisté množství na vnější obal: 500 ml 2 D/E</p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p>
<ul style="list-style-type: none"> · UN "Model Regulation": 	<p>UN 1993 LÁTKA HOŘLAVÁ, KAPALNÁ, J.N. (ETHYLMETHAKRYLÁT, STABILIZOVANÝ, N-BUTYLMETHAKRYLÁT, STABILIZOVANÝ), 3, II</p>

ODDÍL 15: Informace o předpisech

- **15.1 Předpisy týkající se bezpečnosti, zdraví a životního prostředí/specifické právní předpisy týkající se látky nebo směsi**
- **Rady 2012/18/EU**
- **Nebezpečné látky jmenovitě uvedené - PŘÍLOHA I** Žádná z obsažených látek není na seznamu.

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- **Kategorie Seveso P5c HOŘLAVÉ KAPALINY**
- **Kvalifikační množství (v tunách) při uplatnění požadavků pro podlimitní množství 5.000 t**
- **Kvalifikační množství (v tunách) při uplatnění požadavků pro nadlimitní množství 50.000 t**
- **Rady (ES) č. 1907/2006 PŘÍLOHA XVII Omezující podmínky: 3**
- **15.2 Posouzení chemické bezpečnosti: Posouzení chemické bezpečnosti nebylo provedeno.**

ODDÍL 16: Další informace

Údaje se opírají o dnešní stav našich vědomostí, nepředstavují však záruku vlastností produktu a nevznikají tak žádné smluvní právní vztahy.

· **Relevantní věty**

H225 Vysoce hořlavá kapalina a páry.

H226 Hořlavá kapalina a páry.

H315 Dráždí kůži.

H317 Může vyvolat alergickou kožní reakci.

H319 Způsobuje vážné podráždění očí.

H335 Může způsobit podráždění dýchacích cest.

· **Zkratky a akronymy:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Hořlavé kapaliny – Kategorie 2

Flam. Liq. 3: Hořlavé kapaliny – Kategorie 3

Skin Irrit. 2: Žíravost/dráždivost pro kůži – Kategorie 2

Eye Irrit. 2: Vážné poškození očí / podráždění očí – Kategorie 2

Skin Sens. 1: Senzibilizace kůže – Kategorie 1

STOT SE 3: Toxicita pro specifické cílové orgány (jednorázová expozice) – Kategorie 3

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RUBRIEK 1: Identificatie van de stof of het mengsel en van de vennootschap/onderneming

- **1.1 Productidentificatie**
- **Handelsnaam:** LOWICRYL HM23, MONOMER G
- **Artikelnummer:** 14360(G)
- **1.2 Relevant geïdentificeerd gebruik van de stof of het mengsel en ontraden gebruik**
Geen verdere relevante informatie verkrijgbaar.
- **Toepassing van de stof / van de bereiding** Laboratoriumchemicaliën
- **1.3 Details betreffende de verstrekker van het veiligheidsinformatieblad**
- **Fabrikant/leverancier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Aurion**
Binnenhaven 5
6709 PD Wageningen
The Netherlands
Tel: 31 317 415094
Fax: 31 317 415955
email: info@aurion.nl
- **Inlichtingengevende sector:** Product safety department
- **1.4 Telefoonnummer voor noodgevallen:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

RUBRIEK 2: Identificatie van de gevaren

- **2.1 Indeling van de stof of het mengsel**
- **Indeling overeenkomstig Verordening (EG) nr. 1272/2008**



GHS02 vlam

Flam. Liq. 2 H225 Licht ontvlambare vloeistof en damp.



GHS07

Skin Irrit. 2 H315 Veroorzaakt huidirritatie.
Eye Irrit. 2 H319 Veroorzaakt ernstige oogirritatie.
Skin Sens. 1 H317 Kan een allergische huidreactie veroorzaken.
STOT SE 3 H335 Kan irritatie van de luchtwegen veroorzaken.

- **2.2 Etiketteringselementen**
- **Etikettering overeenkomstig Verordening (EG) nr. 1272/2008**
Het product is geclassificeerd en geëtiketteerd volgens de CLP-verordening.

(Vervolg op blz. 2)

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· Gevarenpictogrammen


GHS02 GHS07

· Signaalwoord Gevaar

· Gevaaraanduidende componenten voor de etikettering:

ethylmethacrylaat

N-BUTYL METHACRYLATE, MONOMER

· Gevarenaanduidingen

H225 Licht ontvlambare vloeistof en damp.

H315 Veroorzaakt huidirritatie.

H319 Veroorzaakt ernstige oogirritatie.

H317 Kan een allergische huidreactie veroorzaken.

H335 Kan irritatie van de luchtwegen veroorzaken.

· Veiligheidsaanbevelingen

P210 Verwijderd houden van warmte, hete oppervlakken, vonken, open vuur en andere ontstekingsbronnen. Niet roken.

P303+P361+P353 BIJ CONTACT MET DE HUID (of het haar): verontreinigde kleding onmiddellijk uittrekken. Huid met water afspoelen/afdouchen.

P305+P351+P338 BIJ CONTACT MET DE OGEN: voorzichtig afspoelen met water gedurende een aantal minuten; contactlenzen verwijderen, indien mogelijk; blijven spoelen.

P321 Specifieke behandeling vereist (zie op dit etiket).

P405 Achter slot bewaren.

P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.

· 2.3 Andere gevaren
· Resultaten van PBT- en zPzB-beoordeling

· **PBT:** Niet bruikbaar.

· **zPzB:** Niet bruikbaar.

RUBRIEK 3: Samenstelling en informatie over de bestanddelen

· 3.2 Chemische karakterisering: Mengsels

· **Beschrijving:** Mengsel van na elkaar aangevoerde stoffen met ongevaarlijke bijmengingen.

· Gevaarlijke inhoudstoffen:

CAS: 97-63-2 EINECS: 202-597-5	ethylmethacrylaat ⚠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; ⚠ Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	50-100%
	N-BUTYL METHACRYLATE, MONOMER ⚠ Flam. Liq. 3, H226; ⚠ Skin Irrit. 2, H315; ⚠ Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	25-50%

· Aanvullende gegevens:

De woordelijke inhoud van de opgegeven aanwijzingen inzake de mogelijke gevaren is te vinden in hoofdstuk 16.

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RUBRIEK 4: Eerstehulpmaatregelen

· 4.1 Beschrijving van de eerstehulpmaatregelen

· Na het inademen:

Veel verse lucht toedienen en voor alle zekerheid een arts raadplegen.

Bij bewusteloosheid ligging en vervoer in stabiele zijligging.

· Na huidcontact: Onmiddellijk met water en zeep afwassen en goed naspoelen.

· Na oogcontact:

De ogen gedurende verscheidene minuten onder stromend water afspoelen terwijl de oogspleet geopend blijft. Bij aanhoudende klachten een dokter raadplegen.

· Na inslikken: Als de klachten niet minderen, een arts raadplegen

· 4.2 Belangrijkste acute en uitgestelde symptomen en effecten

Geen verdere relevante informatie verkrijgbaar.

· 4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling

Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 5: Brandbestrijdingsmaatregelen

· 5.1 Blusmiddelen

· Geschikte blusmiddelen:

CO₂, bluspoeder of waterstraal. Grotere brand met waterstraal bestrijden of met schuim, dat tegen alcohol bestand is.

· 5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt

Geen verdere relevante informatie verkrijgbaar.

· 5.3 Advies voor brandweerlieden

· Speciale beschermende kleding: Geen bijzondere maatregelen nodig.

RUBRIEK 6: Maatregelen bij het accidenteel vrijkomen van de stof of het mengsel

· 6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting en noodprocedures

Beschermende kleding aantrekken. Niet beschermde personen op afstand houden.

· 6.2 Milieuvoorzorgsmaatregelen:

Met veel water verdunnen.

Niet in de riolering/het oppervlaktewater/het grondwater laten terechtkomen.

· 6.3 Insluifings- en reinigingsmethoden en -materiaal:

Met vloeistofbindend materiaal (zand, bergmeel, zuurbinder, universele binder, zaagmeel) opnemen.

Voor voldoende ventilatie zorgen.

· 6.4 Verwijzing naar andere rubrieken

Informatie inzake veilig gebruik - zie hoofdstuk 7.

Informatie inzake persoonlijke beschermingsuitrusting - zie hoofdstuk 8.

Informatie inzake berging - zie hoofdstuk 13.

RUBRIEK 7: Hantering en opslag

· 7.1 Voorzorgsmaatregelen voor het veilig hanteren van de stof of het mengsel

Voor goede ventilatie/afzuiging op de werkplaatsen zorgen.

Aërosolvorming vermijden.

· Informatie m.b.t. brand- en ontploffingsgevaar:

Onststekingsbronnen op afstand houden - niet roken.

Beschermen tegen hitte.

Maatregelen treffen tegen ontlading van statische elektriciteit.

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- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
- **Eisen ten opzichte van opslagruimte en tanks:** Op een koele plaats bewaren.
- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:**
 - Tanks ondoordringbaar gesloten houden.
 - Koel en droog bewaren in goed gesloten vaten.
 - Tegen hitte en directe zonnestralen beschermen.
- **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

- **Aanvullende gegevens m.b.t. de inrichting van technische installaties:** Geen aanvullende gegevens. Zie 7.
- **8.1 Controleparameters**
- **Bestanddelen met grenswaarden die m.b.t. de werkruimte in acht genomen moeten worden:** Het product bevat geen relevante hoeveelheden van stoffen, die met betrekking tot de werkplaatsen, qua grenswaarden gecontroleerd moeten worden.
- **Aanvullende gegevens:** Als basis dienden lijsten die bij opstelling geldig waren.
- **8.2 Maatregelen ter beheersing van blootstelling**
- **Persoonlijke beschermingsvoorzieningen:**
- **Algemene beschermings- en gezondheidsmaatregelen:**
 - Verwijderd houden van eet- en drinkwaren.
 - Verontreinigde kleding onmiddellijk uittrekken.
 - Vóór de pauze en aan het einde van werktijd handen wassen.
 - Aanraking met de ogen en de huid vermijden.
- **Ademhalingsbescherming:**
 - Bij korte of geringe belasting ademfiltertoestel; bij intensieve resp. langdurige expositie een van de omringende lucht onafhankelijk ademhalingsstoestel gebruiken.
- **Handbescherming:**



Veiligheidshandschoenen

- Het handschoenmateriaal moet ondoorlatend en bestand zijn tegen het product / de stof / de bereiding.
Op grond van falende testen kan geen aanbeveling voor handschoenmateriaal voor het product / de bereiding / het chemicaliënmengsel afgegeven worden.
Kies handschoenmateriaal rekening houdend met de penetratietijden, de permeatiegraden en de degradatie.
- **Handschoenmateriaal**
 - De keuze van een geschikte handschoen is niet alleen afhankelijk van het materiaal, maar ook van andere kwaliteitskenmerken en verschilt van fabrikant tot fabrikant. Aangezien het product uit meerdere stoffen is samengesteld, is de duurzaamheid van de handschoenmaterialen niet vooraf berekenbaar en moet derhalve vóór het gebruik worden getest.
 - **Doordringingstijd van het handschoenmateriaal**
 - De precieze penetratietijd kunt u te weten komen bij de handschoenfabrikant; houd er rekening mee.

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· **Oogbescherming:**

Nauw aansluitende veiligheidsbril

RUBRIEK 9: Fysische en chemische eigenschappen

· **9.1 Informatie over fysische en chemische basiseigenschappen**· **Algemene gegevens**· **Voorkomen:**

· Vorm:	Vloeistof
· Kleur:	Kleurloos
· Reuk:	Niet karakteristiek.
· Geurdrempelwaarde:	Niet bepaald.

· **pH-waarde:** Niet bepaald.· **Toestandsverandering**

· Smeltpunt/smeltbereik:	Niet bepaald.
· Kookpunt/kookpuntbereik:	119 °C

· **Vlampunt:** 18 °C· **Ontvlambaarheid (vast, gasvormig):** Niet bruikbaar.· **Ontstekingstemperatuur:**· **Ontbindingstemperatuur:** Niet bepaald.· **Zelfonsteking:** Het produkt ontbrandt niet uit zichzelf.· **Ontploffingsgevaar:** Het produkt is niet ontploffingsgevaarlijk, maar de vorming van ontploffingsgevaarlijke damp-/luchtmengsels is mogelijk.· **Ontploffingsgrenzen:**

· Onderste:	1,8 Vol %
· Bovenste:	Niet bepaald.

· **Dampspanning:** Niet bepaald.· **Dichtheid bij 20 °C:** 0,9388 g/cm³· **Relatieve dichtheid:** Niet bepaald.· **Dampdichtheid:** Niet bepaald.· **Verdampingsnelheid:** Niet bepaald.· **Oplosbaarheid in/mengbaarheid met**· **Water:** Volledig mengbaar.· **Verdelingscoëfficiënt (n-octanol/water):** Niet bepaald.· **Viscositeit**· **Dynamisch:** Niet bepaald.· **Kinematisch:** Niet bepaald.· **Oplosmiddelgehalte:**

· Organisch oplosmiddel:	0,0 %
· VOC (EG)	0,00 %

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- **9.2 Overige informatie** *Geen verdere relevante informatie verkrijgbaar.*

RUBRIEK 10: Stabiliteit en reactiviteit

- **10.1 Reactiviteit** *Geen verdere relevante informatie verkrijgbaar.*
- **10.2 Chemische stabiliteit**
- **Thermische afbraak / te vermijden omstandigheden:** *Geen afbraak bij gebruik volgens voorschrift.*
- **10.3 Mogelijke gevaarlijke reacties** *Geen gevaarlijke reacties bekend.*
- **10.4 Te vermijden omstandigheden** *Geen verdere relevante informatie verkrijgbaar.*
- **10.5 Chemisch op elkaar inwerkende materialen:** *Geen verdere relevante informatie verkrijgbaar.*
- **10.6 Gevaarlijke ontledingsproducten:** *Geen gevaarlijke ontbindingsproducten bekend.*

RUBRIEK 11: Toxicologische informatie

- **11.1 Informatie over toxicologische effecten**
- **Acute toxiciteit** *Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.*

- **Indelingsrelevantie LD/LC50-waarden:**

97-63-2 ethylmethacrylaat		
Oraal	LD50	14800 mg/kg (rat)

- **Primaire aandoening:**
- **Huidcorrosie/-irritatie**
Veroorzaakt huidirritatie.
- **Ernstig oogletsel/oogirritatie**
Veroorzaakt ernstige oogirritatie.
- **Sensibilisatie van de luchtwegen/de huid**
Kan een allergische huidreactie veroorzaken.
- **CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)**
- **Mutageniteit in geslachtscellen** *Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.*
- **Kankerverwekkendheid** *Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.*
- **Giftigheid voor de voortplanting** *Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.*
- **STOT bij eenmalige blootstelling**
Kan irritatie van de luchtwegen veroorzaken.
- **STOT bij herhaalde blootstelling** *Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.*
- **Gevaar bij inademing** *Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.*

RUBRIEK 12: Ecologische informatie

- **12.1 Toxiciteit**
- **Aquatische toxiciteit:** *Geen verdere relevante informatie verkrijgbaar.*
- **12.2 Persistentie en afbreekbaarheid** *Geen verdere relevante informatie verkrijgbaar.*
- **12.3 Bioaccumulatie** *Geen verdere relevante informatie verkrijgbaar.*
- **12.4 Mobiliteit in de bodem** *Geen verdere relevante informatie verkrijgbaar.*
- **Verdere ecologische informatie:**
- **Algemene informatie:**
Waterbezwaarlijkheid (NL) 10: Kan in het aquatisch milieu op lange termijn schadelijke effecten veroorzaken.
Gevaar voor water klasse 1 (D) (Zelfclassificatie): gevaar voor water klein
Niet onverdund of in grote hoeveelheden lozen in grondwater, in oppervlaktewater of in de riolering.
- **12.5 Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** *Niet bruikbaar.*

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- **zPzB:** Niet bruikbaar.
- **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 13: Instructies voor verwijdering

- **13.1 Afvalverwerkingsmethoden**
- **Aanbeveling:** Mag niet tesamen met huisvuil gestort worden of in de riolering terecht komen.
- **Niet gereinigde verpakkingen:**
- **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.
- **Aanbevolen reinigingsmiddel:** Water, eventueel met toevoeging van reinigingsmiddelen.

RUBRIEK 14: Informatie met betrekking tot het vervoer

- | | |
|--|--|
| <ul style="list-style-type: none"> · 14.1 VN-nummer · ADR, IMDG, IATA | <p style="text-align: center;">UN1993</p> |
| <ul style="list-style-type: none"> · 14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN · ADR · IMDG, IATA | <p style="text-align: center;">1993 BRANDBARE VLOEISTOF, N.E.G.
(ETHYLMETHACRYLAAT, GESTABILISEERD, n-BUTYLMETHACRYLAAT, GESTABILISEERD)
FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, n-BUTYL METHACRYLATE, STABILIZED)</p> |
| <ul style="list-style-type: none"> · 14.3 Transportgevarenklasse(n) · ADR, IMDG, IATA | <div style="text-align: center;">  </div> <p>· klasse 3 Brandbare vloeistoffen
· Etiket 3</p> |
| <ul style="list-style-type: none"> · 14.4 Verpakkingsgroep: · ADR, IMDG, IATA | <p style="text-align: center;">II</p> |
| <ul style="list-style-type: none"> · 14.5 Milieugevaren: | <p style="text-align: center;">Niet bruikbaar.</p> |
| <ul style="list-style-type: none"> · 14.6 Bijzondere voorzorgen voor de gebruiker · Kemler-getal: · EMS-nummer: · Stowage Category | <p style="text-align: center;">Waarschuwing: Brandbare vloeistoffen
33
F-E,<u>S-E</u>
B</p> |
| <ul style="list-style-type: none"> · 14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code | <p style="text-align: center;">Niet bruikbaar.</p> |
| <ul style="list-style-type: none"> · Transport/verdere gegevens: | |
| <ul style="list-style-type: none"> · ADR · Beperkte hoeveelheden (LQ) · Uitgezonderde hoeveelheden (EQ) · Vervoerscategorie | <p style="text-align: center;">1L
Code: E2
Grootste netto hoeveelheid per binnenverpakking: 30 ml
Grootste netto hoeveelheid per buitenverpakking: 500 ml
2</p> |

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· Tunnelbeperkingscode	D/E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· VN "Model Regulation":	UN 1993 BRANDBARE VLOEISTOF, N.E.G. (ETHYLMETHACRYLAAT, GESTABILISEERD, N-BUTYLMETHACRYLAAT, GESTABILISEERD), 3, II

RUBRIEK 15: Regelgeving

· 15.1 Specifieke veiligheids-, gezondheids- en milieureglementen en -wetgeving voor de stof of het mengsel

· SZW-lijst van kankerverwekkende stoffen

geen der bestanddelen staat op de lijst.

· SZW-lijst van mutagene stoffen

geen der bestanddelen staat op de lijst.

· NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Vruchtbaarheid

geen der bestanddelen staat op de lijst.

· NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling

geen der bestanddelen staat op de lijst.

· NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Borstvoeding

geen der bestanddelen staat op de lijst.

· Richtlijn 2012/18/EU

· **Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I** geen der bestanddelen staat op de lijst.

· **Seveso-categorie P5c ONTVLAMBARE VLOEISTOFFEN**

· **Drempelwaarde (ton) voor toepassing van voorschriften voor lagedrempelinrichtingen 5.000 t**

· **Drempelwaarde (ton) voor toepassing van voorschriften voor hogedrempelinrichtingen 50.000 t**

· **Verordening (EG) nr. 1907/2006 BIJLAGE XVII Beperkingsvoorwaarden: 3**

· Nationale voorschriften:

· **Gevaarklasse v. water:** Waterbezwaarlijkheid (NL) 10: Saneringsinspanning A

· **15.2 Chemischeveiligheidsbeoordeling:** Een chemische veiligheidsbeoordeling is niet uitgevoerd.

RUBRIEK 16: Overige informatie

Deze gegevens zijn gebaseerd op de huidige stand van onze kennis. Zij beschrijven echter geen garantie van produkteigenschappen en vestigen geen contractuele rechtsbetrekking.

· Relevante zinnen

H225 Licht ontvlambare vloeistof en damp.

H226 Ontvlambare vloeistof en damp.

H315 Veroorzaakt huidirritatie.

H317 Kan een allergische huidreactie veroorzaken.

H319 Veroorzaakt ernstige oogirritatie.

H335 Kan irritatie van de luchtwegen veroorzaken.

· Afkortingen en acroniemen:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

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*IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**GHS: Globally Harmonised System of Classification and Labelling of Chemicals**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Flam. Liq. 2: Ontvlambare vloeistoffen – Categorie 2**Flam. Liq. 3: Ontvlambare vloeistoffen – Categorie 3**Skin Irrit. 2: Huidcorrosie/-irritatie – Categorie 2**Eye Irrit. 2: Ernstig oogletsel/oogirritatie – Categorie 2**Skin Sens. 1: Sensibilisatie van de huid – Categorie 1**STOT SE 3: Specifieke doelorgaantoxiciteit bij eenmalige blootstelling – Categorie 3*

NL

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RUBRIQUE 1: Identification de la substance/du mélange et de la société/l'entreprise

- **1.1 Identificateur de produit**
- **Nom du produit:** LOWICRYL HM23, MONOMER G
- **Code du produit:** 14360(G)
- **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**
Pas d'autres informations importantes disponibles.
- **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires
- **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**
- **Producteur/fournisseur:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Service chargé des renseignements:** Product safety department
- **1.4 Numéro d'appel d'urgence:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

RUBRIQUE 2: Identification des dangers

- **2.1 Classification de la substance ou du mélange**
- **Classification selon le règlement (CE) n° 1272/2008**



GHS02 flamme

Flam. Liq. 2 H225 Liquide et vapeurs très inflammables.



GHS07

Skin Irrit. 2 H315 Provoque une irritation cutanée.
 Eye Irrit. 2 H319 Provoque une sévère irritation des yeux.
 Skin Sens. 1 H317 Peut provoquer une allergie cutanée.
 STOT SE 3 H335 Peut irriter les voies respiratoires.

- **2.2 Éléments d'étiquetage**
- **Étiquetage selon le règlement (CE) n° 1272/2008** Le produit est classifié et étiqueté selon le règlement CLP.
- **Pictogrammes de danger**



GHS02 GHS07

- **Mention d'avertissement** Danger
- **Composants dangereux déterminants pour l'étiquetage:**
méthacrylate d'éthyle
N-BUTYL METHACRYLATE, MONOMER
- **Mentions de danger**
H225 Liquide et vapeurs très inflammables.

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- H315 Provoque une irritation cutanée.
- H319 Provoque une sévère irritation des yeux.
- H317 Peut provoquer une allergie cutanée.
- H335 Peut irriter les voies respiratoires.

· **Conseils de prudence**

- P210 Tenir à l'écart de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et de toute autre source d'inflammation. Ne pas fumer.
- P303+P361+P353 EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): Enlever immédiatement tous les vêtements contaminés. Rincer la peau à l'eau/Se doucher.
- P305+P351+P338 EN CAS DE CONTACT AVEC LES YEUX: rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.
- P321 Traitement spécifique (voir sur cette étiquette).
- P405 Garder sous clef.
- P501 Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.

· **2.3 Autres dangers**

· **Résultats des évaluations PBT et vPvB**

- **PBT:** Non applicable.
- **vPvB:** Non applicable.

RUBRIQUE 3: Composition/informations sur les composants

· **3.2 Caractérisation chimique: Mélanges**

- **Description:** Mélange des substances mentionnées à la suite avec des additifs non dangereux.

· **Composants dangereux:**

CAS: 97-63-2 EINECS: 202-597-5	méthacrylate d'éthyle ⚠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	50-100%
	N-BUTYL METHACRYLATE, MONOMER ⚠ Flam. Liq. 3, H226; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	25-50%

- **Indications complémentaires:** Pour le libellé des phrases de risque citées, se référer au chapitre 16.

RUBRIQUE 4: Premiers secours

· **4.1 Description des premiers secours**

· **Après inhalation:**

- Donner de l'air frais en abondance et consulter un médecin pour plus de sécurité.
- En cas d'inconscience, coucher et transporter la personne en position latérale stable.

- **Après contact avec la peau:** Laver immédiatement à l'eau et au savon et bien rincer.

· **Après contact avec les yeux:**

- Rincer les yeux, pendant plusieurs minutes, sous l'eau courante en écartant bien les paupières. Si les troubles persistent, consulter un médecin.

- **Après ingestion:** Si les troubles persistent, consulter un médecin.

- **4.2 Principaux symptômes et effets, aigus et différés** Pas d'autres informations importantes disponibles.

- **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**

- Pas d'autres informations importantes disponibles.

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RUBRIQUE 5: Mesures de lutte contre l'incendie

- **5.1 Moyens d'extinction**
- **Moyens d'extinction:**
CO₂, poudre d'extinction ou eau pulvérisée. Combattre les foyers importants avec de l'eau pulvérisée ou de la mousse résistant à l'alcool.
- **5.2 Dangers particuliers résultant de la substance ou du mélange**
Pas d'autres informations importantes disponibles.
- **5.3 Conseils aux pompiers**
- **Équipement spécial de sécurité:** Aucune mesure particulière n'est requise.

RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

- **6.1 Précautions individuelles, équipement de protection et procédures d'urgence**
Porter un équipement de sécurité. Eloigner les personnes non protégées.
- **6.2 Précautions pour la protection de l'environnement:**
Diluer avec beaucoup d'eau.
Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.
- **6.3 Méthodes et matériel de confinement et de nettoyage:**
Recueillir les liquides à l'aide d'un produit absorbant (sable, kieselguhr, neutralisant d'acide, liant universel, sciure).
Assurer une aération suffisante.
- **6.4 Référence à d'autres rubriques**
Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.
Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.
Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

RUBRIQUE 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger**
Veiller à une bonne ventilation/aspiration du poste de travail.
Éviter la formation d'aérosols.
- **Préventions des incendies et des explosions:**
Tenir à l'abri des sources d'inflammation - ne pas fumer.
Tenir à l'abri de la chaleur.
Prendre des mesures contre les charges électrostatiques.
- **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**
- **Stockage:**
- **Exigences concernant les lieux et conteneurs de stockage:** Stocker dans un endroit frais.
- **Indications concernant le stockage commun:** Pas nécessaire.
- **Autres indications sur les conditions de stockage:**
Tenir les emballages hermétiquement fermés.
Stocker au frais et au sec dans des fûts bien fermés.
Protéger de la forte chaleur et du rayonnement direct du soleil.
- **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

- **Indications complémentaires pour l'agencement des installations techniques:**
Sans autre indication, voir point 7.

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· **8.1 Paramètres de contrôle**

· **Composants présentant des valeurs-seuil à surveiller par poste de travail:**

Le produit ne contient pas en quantité significative des substances présentant des valeurs-seuil à surveiller par poste de travail.

· **Remarques supplémentaires:**

Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.

· **8.2 Contrôles de l'exposition**

· **Equipement de protection individuel:**

· **Mesures générales de protection et d'hygiène:**

Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.

Retirer immédiatement les vêtements souillés ou humectés.

Se laver les mains avant les pauses et en fin de travail.

Eviter tout contact avec les yeux et avec la peau.

· **Protection respiratoire:**

En cas d'exposition faible ou de courte durée, utiliser un filtre respiratoire; en cas d'exposition intense ou durable, utiliser un appareil de respiration indépendant de l'air ambiant.

· **Protection des mains:**



Gants de protection

Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation.

À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée.

Choix du matériau des gants en fonction des temps de pénétration, du taux de perméabilité et de la dégradation.

· **Matériau des gants**

Le choix de gants appropriés dépend non seulement du matériau, mais aussi d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre. Puisque le produit représente une préparation composée de plusieurs substances, la résistance des matériaux des gants ne peut pas être calculée à l'avance et doit, alors, être contrôlée avant l'utilisation.

· **Temps de pénétration du matériau des gants**

Le temps de pénétration exact est à déterminer par le fabricant des gants de protection et à respecter.

· **Protection des yeux:**



Lunettes de protection hermétiques

RUBRIQUE 9: Propriétés physiques et chimiques

· **9.1 Informations sur les propriétés physiques et chimiques essentielles**

· **Indications générales**

· **Aspect:**

Forme: Liquide

Couleur: Incolore

· **Odeur:** Non caractéristique

· **Seuil olfactif:** Non déterminé.

· **valeur du pH:** Non déterminé.

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· Changement d'état	
Point de fusion:	Non déterminé.
Point d'ébullition:	119 °C
· Point d'éclair	18 °C
· Inflammabilité (solide, gazeux):	Non applicable.
· Température d'inflammation:	
Température de décomposition:	Non déterminé.
· Auto-inflammation:	Le produit ne s'enflamme pas spontanément.
· Danger d'explosion:	Le produit n'est pas explosif; toutefois, des mélanges explosifs vapeur-air peuvent se former.
· Limites d'explosion:	
Inférieure:	1,8 Vol %
Supérieure:	Non déterminé.
· Pression de vapeur:	Non déterminé.
· Densité à 20 °C:	0,9388 g/cm ³
· Densité relative	Non déterminé.
· Densité de vapeur.	Non déterminé.
· Vitesse d'évaporation	Non déterminé.
· Solubilité dans/miscibilité avec l'eau:	Entièrement miscible
· Coefficient de partage (n-octanol/eau):	Non déterminé.
· Viscosité:	
Dynamique:	Non déterminé.
Cinématique:	Non déterminé.
· Teneur en solvants:	
Solvants organiques:	0,0 %
VOC (CE)	0,00 %
· 9.2 Autres informations	Pas d'autres informations importantes disponibles.

RUBRIQUE 10: Stabilité et réactivité

- **10.1 Réactivité** Pas d'autres informations importantes disponibles.
- **10.2 Stabilité chimique**
- **Décomposition thermique/conditions à éviter:** Pas de décomposition en cas d'usage conforme.
- **10.3 Possibilité de réactions dangereuses** Aucune réaction dangereuse connue.
- **10.4 Conditions à éviter** Pas d'autres informations importantes disponibles.
- **10.5 Matières incompatibles:** Pas d'autres informations importantes disponibles.
- **10.6 Produits de décomposition dangereux:** Pas de produits de décomposition dangereux connus

RUBRIQUE 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**
- **Toxicité aiguë** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

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· Valeurs LD/LC50 déterminantes pour la classification:

97-63-2 méthacrylate d'éthyle

Oral	LD50	14800 mg/kg (rat)
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- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée**
Provoque une irritation cutanée.
- **Lésions oculaires graves/irritation oculaire**
Provoque une sévère irritation des yeux.
- **Sensibilisation respiratoire ou cutanée**
Peut provoquer une allergie cutanée.
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**
- **Mutagénicité sur les cellules germinales**
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Cancérogénicité** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité pour la reproduction**
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité spécifique pour certains organes cibles - exposition unique**
Peut irriter les voies respiratoires.
- **Toxicité spécifique pour certains organes cibles - exposition répétée**
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Danger par aspiration** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

RUBRIQUE 12: Informations écologiques

- **12.1 Toxicité**
- **Toxicité aquatique:** Pas d'autres informations importantes disponibles.
- **12.2 Persistance et dégradabilité** Pas d'autres informations importantes disponibles.
- **12.3 Potentiel de bioaccumulation** Pas d'autres informations importantes disponibles.
- **12.4 Mobilité dans le sol** Pas d'autres informations importantes disponibles.
- **Autres indications écologiques:**
- **Indications générales:**
Catégorie de pollution des eaux 1 (D) (Classification propre): peu polluant
Ne pas laisser le produit, non dilué ou en grande quantité, pénétrer la nappe phréatique, les eaux ou les canalisations.
- **12.5 Résultats des évaluations PBT et VPVB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.
- **12.6 Autres effets néfastes** Pas d'autres informations importantes disponibles.

RUBRIQUE 13: Considérations relatives à l'élimination

- **13.1 Méthodes de traitement des déchets**
- **Recommandation:** Ne doit pas être évacué avec les ordures ménagères. Ne pas laisser pénétrer dans les égouts.
- **Emballages non nettoyés:**
- **Recommandation:** Evacuation conformément aux prescriptions légales.
- **Produit de nettoyage recommandé:** Eau, éventuellement avec des produits de nettoyage

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RUBRIQUE 14: Informations relatives au transport

· 14.1 Numéro ONU · ADR, IMDG, IATA	UN1993
· 14.2 Désignation officielle de transport de l'ONU · ADR · IMDG, IATA	1993 LIQUIDE INFLAMMABLE, N.S.A. (MÉTHACRYLATE D'ÉTHYLE, STABILISÉ, MÉTHACRYLATE DE n-BUTYLE STABILISÉ) FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, n-BUTYL METHACRYLATE, STABILIZED)
· 14.3 Classe(s) de danger pour le transport · ADR, IMDG, IATA	
	
· Classe · Étiquette	3 Liquides inflammables. 3
· 14.4 Groupe d'emballage · ADR, IMDG, IATA	II
· 14.5 Dangers pour l'environnement:	Non applicable.
· 14.6 Précautions particulières à prendre par l'utilisateur · Indice Kemler: · No EMS: · Stowage Category	Attention: Liquides inflammables. 33 F-E,S-E B
· 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC	Non applicable.
· Indications complémentaires de transport:	
· ADR · Quantités limitées (LQ) · Quantités exceptées (EQ)	1L Code: E2 Quantité maximale nette par emballage intérieur: 30 ml Quantité maximale nette par emballage extérieur: 500 ml
· Catégorie de transport · Code de restriction en tunnels	2 D/E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

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· "Règlement type" de l'ONU:	UN 1993 LIQUIDE INFLAMMABLE, N.S.A. (MÉTHACRYLATE D'ÉTHYLE, STABILISÉ, MÉTHACRYLATE DE N-BUTYLE STABILISÉ), 3, II
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RUBRIQUE 15: Informations relatives à la réglementation

- **15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement**
- Directive 2012/18/UE
- **Substances dangereuses désignées - ANNEXE I** Aucun des composants n'est compris.
- **Catégorie SEVESO P5c LIQUIDES INFLAMMABLES**
- **Quantité seuil (tonnes) pour l'application des exigences relatives au seuil bas 5.000 t**
- **Quantité seuil (tonnes) pour l'application des exigences relatives au seuil haut 50.000 t**
- **RÈGLEMENT (CE) N° 1907/2006 ANNEXE XVII** Conditions de limitation: 3
- **15.2 Évaluation de la sécurité chimique:** Une évaluation de la sécurité chimique n'a pas été réalisée.

RUBRIQUE 16: Autres informations

Ces indications sont fondées sur l'état actuel de nos connaissances, mais ne constituent pas une garantie quant aux propriétés du produit et ne donnent pas lieu à un rapport juridique contractuel.

- **Phrases importantes**
- H225 Liquide et vapeurs très inflammables.
- H226 Liquide et vapeurs inflammables.
- H315 Provoque une irritation cutanée.
- H317 Peut provoquer une allergie cutanée.
- H319 Provoque une sévère irritation des yeux.
- H335 Peut irriter les voies respiratoires.
- **Acronymes et abréviations:**
- ADR: Accord européen sur le transport des marchandises dangereuses par Route
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 2: Liquides inflammables – Catégorie 2
- Flam. Liq. 3: Liquides inflammables – Catégorie 3
- Skin Irrit. 2: Corrosion cutanée/irritation cutanée – Catégorie 2
- Eye Irrit. 2: Lésions oculaires graves/irritation oculaire – Catégorie 2
- Skin Sens. 1: Sensibilisation cutanée – Catégorie 1
- STOT SE 3: Toxicité spécifique pour certains organes cibles (exposition unique) – Catégorie 3

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ABSCHNITT 1: Bezeichnung des Stoffs beziehungsweise des Gemischs und des Unternehmens

- **1.1 Produktidentifikator**
- **Handelsname:** LOWICRYL HM23, MONOMER G
- **Artikelnummer:** 14360(G)
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffes / des Gemisches** Laborchemikalien
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com

Science Services GmbH
Unterhachinger Str. 75
81737 München Germany
Tel: +49(0)89 18 93 668-0
safety@scienceservices.de

24h Giftnotruf Munchen: +49 (0)89 19240
Toxikologische Abteilung der II. Medizinischen Klinik
rechts der Isar, Munchen. - www.toxinfo.org
- **Auskunftgebender Bereich:** Product safety department
- **1.4 Notrufnummer:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

ABSCHNITT 2: Mögliche Gefahren

- **2.1 Einstufung des Stoffs oder Gemischs**
- **Einstufung gemäß Verordnung (EG) Nr. 1272/2008**



GHS02 Flamme

Flam. Liq. 2 H225 Flüssigkeit und Dampf leicht entzündbar.



GHS07

Skin Irrit. 2 H315 Verursacht Hautreizungen.
Eye Irrit. 2 H319 Verursacht schwere Augenreizung.
Skin Sens. 1 H317 Kann allergische Hautreaktionen verursachen.
STOT SE 3 H335 Kann die Atemwege reizen.

- **2.2 Kennzeichnungselemente**
- **Kennzeichnung gemäß Verordnung (EG) Nr. 1272/2008**
Das Produkt ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.

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Gefahrenpiktogramme


GHS02 GHS07

Signalwort Gefahr
Gefahrbestimmende Komponenten zur Etikettierung:

Ethyl-methacrylat

N-BUTYL METHACRYLATE, MONOMER

Gefahrenhinweise

H225 Flüssigkeit und Dampf leicht entzündbar.

H315 Verursacht Hautreizungen.

H319 Verursacht schwere Augenreizung.

H317 Kann allergische Hautreaktionen verursachen.

H335 Kann die Atemwege reizen.

Sicherheitshinweise

P210 Von Hitze, heißen Oberflächen, Funken, offenen Flammen und anderen Zündquellen fernhalten. Nicht rauchen.

P303+P361+P353 BEI BERÜHRUNG MIT DER HAUT (oder dem Haar): Alle kontaminierten Kleidungsstücke sofort ausziehen. Haut mit Wasser abwaschen/duschen.

P305+P351+P338 BEI KONTAKT MIT DEN AUGEN: Einige Minuten lang behutsam mit Wasser spülen. Eventuell vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen.

P321 Besondere Behandlung (siehe auf diesem Kennzeichnungsetikett).

P405 Unter Verschluss aufbewahren.

P501 Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen / internationalen Vorschriften.

2.3 Sonstige Gefahren
Ergebnisse der PBT- und vPvB-Beurteilung

PBT: Nicht anwendbar.

vPvB: Nicht anwendbar.

ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

3.2 Chemische Charakterisierung: Gemische

Beschreibung: Gemisch aus nachfolgend angeführten Stoffen mit ungefährlichen Beimengungen.

Gefährliche Inhaltsstoffe:

CAS: 97-63-2 EINECS: 202-597-5	Ethyl-methacrylat ⚠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; ⚠ Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	50-100%
	N-BUTYL METHACRYLATE, MONOMER ⚠ Flam. Liq. 3, H226; ⚠ Skin Irrit. 2, H315; ⚠ Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	25-50%

Zusätzliche Hinweise: Der Wortlaut der angeführten Gefahrenhinweise ist dem Abschnitt 16 zu entnehmen.

ABSCHNITT 4: Erste-Hilfe-Maßnahmen

4.1 Beschreibung der Erste-Hilfe-Maßnahmen
Nach Einatmen:

Reichlich Frischluftzufuhr und sicherheitshalber Arzt aufsuchen.

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- Bei Bewußtlosigkeit Lagerung und Transport in stabiler Seitenlage.
- **Nach Hautkontakt:** Sofort mit Wasser und Seife abwaschen und gut nachspülen.
- **Nach Augenkontakt:**
Augen mehrere Minuten bei geöffnetem Lidspalt unter fließendem Wasser spülen. Bei anhaltenden Beschwerden Arzt konsultieren.
- **Nach Verschlucken:** Bei anhaltenden Beschwerden Arzt konsultieren.
- **4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen**
Keine weiteren relevanten Informationen verfügbar.
- **4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung**
Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

- **5.1 Löschmittel**
- **Geeignete Löschmittel:**
CO₂, Löschpulver oder Wassersprühstrahl. Größeren Brand mit Wassersprühstrahl oder alkoholbeständigem Schaum bekämpfen.
- **5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**
Keine weiteren relevanten Informationen verfügbar.
- **5.3 Hinweise für die Brandbekämpfung**
- **Besondere Schutzausrüstung:** Keine besonderen Maßnahmen erforderlich.

ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

- **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**
Schutzausrüstung tragen. Ungeschützte Personen fernhalten.
- **6.2 Umweltschutzmaßnahmen:**
Mit viel Wasser verdünnen.
Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.
- **6.3 Methoden und Material für Rückhaltung und Reinigung:**
Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.
Für ausreichende Lüftung sorgen.
- **6.4 Verweis auf andere Abschnitte**
Informationen zur sicheren Handhabung siehe Abschnitt 7.
Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.
Informationen zur Entsorgung siehe Abschnitt 13.

ABSCHNITT 7: Handhabung und Lagerung

- **7.1 Schutzmaßnahmen zur sicheren Handhabung**
Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.
Aerosolbildung vermeiden.
- **Hinweise zum Brand- und Explosionsschutz:**
Zündquellen fernhalten - nicht rauchen.
Vor Hitze schützen.
Maßnahmen gegen elektrostatische Aufladung treffen.
- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
- **Anforderung an Lagerräume und Behälter:** An einem kühlen Ort lagern.
- **Zusammenlagerungshinweise:** Nicht erforderlich.

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- **Weitere Angaben zu den Lagerbedingungen:**
Behälter dicht geschlossen halten.
In gut verschlossenen Gebinden kühl und trocken lagern.
Vor Hitze und direkter Sonnenbestrahlung schützen.
- **Lagerklasse:**
- **Klassifizierung nach Betriebssicherheitsverordnung (BetrSichV):** Entzündbare Flüssigkeiten
- **7.3 Spezifische Endanwendungen** Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

- **Zusätzliche Hinweise zur Gestaltung technischer Anlagen:** Keine weiteren Angaben, siehe Abschnitt 7.
- **8.1 Zu überwachende Parameter**

- **Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:**

97-63-2 Ethyl-methacrylat
MAK vgl.Abschn.IV
N-BUTYL METHACRYLATE, MONOMER
MAK vgl.Abschn.IV

- **Zusätzliche Hinweise:** Als Grundlage dienen die bei der Erstellung gültigen Listen.

- **8.2 Begrenzung und Überwachung der Exposition**

- **Persönliche Schutzausrüstung:**

- **Allgemeine Schutz- und Hygienemaßnahmen:**

Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.

Beschmutzte, getränkte Kleidung sofort ausziehen.

Vor den Pausen und bei Arbeitsende Hände waschen.

Berührung mit den Augen und der Haut vermeiden.

- **Atemschutz:**

Bei kurzzeitiger oder geringer Belastung Atemfiltergerät; bei intensiver bzw. längerer Exposition unluftunabhängiges Atemschutzgerät verwenden.

- **Handschutz:**



Schutzhandschuhe

Das Handschuhmaterial muss undurchlässig und beständig gegen das Produkt / den Stoff / die Zubereitung sein. Aufgrund fehlender Tests kann keine Empfehlung zum Handschuhmaterial für das Produkt / die Zubereitung / das Chemikaliengemisch abgegeben werden.

Auswahl des Handschuhmaterials unter Beachtung der Durchbruchzeiten, Permeationsraten und der Degradation.

- **Handschuhmaterial**

Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich. Da das Produkt eine Zubereitung aus mehreren Stoffen darstellt, ist die Beständigkeit von Handschuhmaterialien nicht vorausberechenbar und muß deshalb vor dem Einsatz überprüft werden.

- **Durchdringungszeit des Handschuhmaterials**

Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.

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· **Augenschutz:**

Dichtschließende Schutzbrille

ABSCHNITT 9: Physikalische und chemische Eigenschaften

· **9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften**· **Allgemeine Angaben**· **Aussehen:**

Form:	Flüssigkeit
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Farbe:	Farblos
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· **Geruch:** Nicht charakteristisch.· **Geruchsschwelle:** Nicht bestimmt.· **pH-Wert:** Nicht bestimmt.· **Zustandsänderung**

Schmelzpunkt/Schmelzbereich:	Nicht bestimmt.
-------------------------------------	-----------------

Siedepunkt/Siedebereich:	119 °C
---------------------------------	--------

· **Flammpunkt:** 18 °C· **Entzündlichkeit (fest, gasförmig):** Nicht anwendbar.· **Zündtemperatur:**

Zersetzungstemperatur:	Nicht bestimmt.
-------------------------------	-----------------

· **Selbstentzündlichkeit:** Das Produkt ist nicht selbstentzündlich.· **Explosionsgefahr:** Das Produkt ist nicht explosionsgefährlich, jedoch ist die Bildung explosionsgefährlicher Dampf-/Luftgemische möglich.· **Explosionsgrenzen:**

Untere:	1,8 Vol %
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Obere:	Nicht bestimmt.
---------------	-----------------

· **Dampfdruck:** Nicht bestimmt.· **Dichte bei 20 °C:** 0,9388 g/cm³· **Relative Dichte:** Nicht bestimmt.· **Dampfdichte:** Nicht bestimmt.· **Verdampfungsgeschwindigkeit:** Nicht bestimmt.· **Löslichkeit in / Mischbarkeit mit**

Wasser:	Vollständig mischbar.
----------------	-----------------------

· **Verteilungskoeffizient (n-Octanol/Wasser):** Nicht bestimmt.· **Viskosität:**

Dynamisch:	Nicht bestimmt.
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Kinematisch:	Nicht bestimmt.
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· **Lösemittelgehalt:**

Organische Lösemittel:	0,0 %
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VOC (EU)	0,00 %
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· 9.2 Sonstige Angaben

Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 10: Stabilität und Reaktivität

- **10.1 Reaktivität** Keine weiteren relevanten Informationen verfügbar.
- **10.2 Chemische Stabilität**
- **Thermische Zersetzung / zu vermeidende Bedingungen:**
Keine Zersetzung bei bestimmungsgemäßer Verwendung.
- **10.3 Möglichkeit gefährlicher Reaktionen** Keine gefährlichen Reaktionen bekannt.
- **10.4 Zu vermeidende Bedingungen** Keine weiteren relevanten Informationen verfügbar.
- **10.5 Unverträgliche Materialien:** Keine weiteren relevanten Informationen verfügbar.
- **10.6 Gefährliche Zersetzungsprodukte:** Keine gefährlichen Zersetzungsprodukte bekannt.

ABSCHNITT 11: Toxikologische Angaben

- **11.1 Angaben zu toxikologischen Wirkungen**
- **Akute Toxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

· Einstufungsrelevante LD/LC50-Werte:
97-63-2 Ethyl-methacrylat

Oral	LD50	14800 mg/kg (rat)
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- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut**
Verursacht Hautreizungen.
- **Schwere Augenschädigung/-reizung**
Verursacht schwere Augenreizung.
- **Sensibilisierung der Atemwege/Haut**
Kann allergische Hautreaktionen verursachen.
- **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
- **Keimzell-Mutagenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Karzinogenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Reproduktionstoxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Spezifische Zielorgan-Toxizität bei einmaliger Exposition**
Kann die Atemwege reizen.
- **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Aspirationsgefahr** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

ABSCHNITT 12: Umweltbezogene Angaben

- **12.1 Toxizität**
- **Aquatische Toxizität:** Keine weiteren relevanten Informationen verfügbar.
- **12.2 Persistenz und Abbaubarkeit** Keine weiteren relevanten Informationen verfügbar.
- **12.3 Bioakkumulationspotenzial** Keine weiteren relevanten Informationen verfügbar.
- **12.4 Mobilität im Boden** Keine weiteren relevanten Informationen verfügbar.
- **Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:**
Wassergefährdungsklasse 1 (Selbsteinstufung): schwach wassergefährdend
Nicht unverdünnt bzw. in größeren Mengen in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.

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- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.
- **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 13: Hinweise zur Entsorgung

- **13.1 Verfahren der Abfallbehandlung**
- **Empfehlung:** Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.
- **Ungereinigte Verpackungen:**
- **Empfehlung:** Entsorgung gemäß den behördlichen Vorschriften.
- **Empfohlenes Reinigungsmittel:** Wasser, gegebenenfalls mit Zusatz von Reinigungsmitteln.

ABSCHNITT 14: Angaben zum Transport

- | | |
|--|--|
| <ul style="list-style-type: none"> · 14.1 UN-Nummer · ADR, IMDG, IATA | <p style="text-align: right;">UN1993</p> |
| <ul style="list-style-type: none"> · 14.2 Ordnungsgemäße UN-Versandbezeichnung · ADR · IMDG, IATA | <p style="text-align: right;">1993 ENTZÜNDBARER FLÜSSIGER STOFF, N.A.G. (ETHYLMETHACRYLAT, STABILISIERT, n-BUTYLMETHACRYLAT, STABILISIERT)
FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, n-BUTYL METHACRYLATE, STABILIZED)</p> |
| <ul style="list-style-type: none"> · 14.3 Transportgefahrenklassen · ADR, IMDG, IATA | <div style="text-align: center;">  </div> <p style="text-align: right;">3 Entzündbare flüssige Stoffe
3</p> |
| <ul style="list-style-type: none"> · 14.4 Verpackungsgruppe · ADR, IMDG, IATA | <p style="text-align: right;">II</p> |
| <ul style="list-style-type: none"> · 14.5 Umweltgefahren: | <p style="text-align: right;">Nicht anwendbar.</p> |
| <ul style="list-style-type: none"> · 14.6 Besondere Vorsichtsmaßnahmen für den Verwender · Kemler-Zahl: · EMS-Nummer: · Stowage Category | <p style="text-align: right;">Achtung: Entzündbare flüssige Stoffe
33
F-E, S-E
B</p> |
| <ul style="list-style-type: none"> · 14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code | <p style="text-align: right;">Nicht anwendbar.</p> |
| <ul style="list-style-type: none"> · Transport/weitere Angaben: | <p style="text-align: right;">1L</p> |

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· Freigestellte Mengen (EQ)	Code: E2 Höchste Nettomenge je Innenverpackung: 30 ml Höchste Nettomenge je Außenverpackung: 500 ml
· Beförderungskategorie	2
· Tunnelbeschränkungscode	D/E
<hr style="border-top: 1px dashed #000;"/>	
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1993 ENTZÜNDBARER FLÜSSIGER STOFF, N.A.G. (ETHYLMETHACRYLAT, STABILISIERT, N-BUTYLMETHACRYLAT, STABILISIERT), 3, II

ABSCHNITT 15: Rechtsvorschriften

- **15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch**
- **Richtlinie 2012/18/EU**
- **Namentlich aufgeführte gefährliche Stoffe - ANHANG I** Keiner der Inhaltsstoffe ist enthalten.
- **Seveso-Kategorie P5c ENTZÜNDBARE FLÜSSIGKEITEN**
- **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der unteren Klasse** 5.000 t
- **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der oberen Klasse** 50.000 t
- **VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII** Beschränkungsbedingungen: 3
- **Nationale Vorschriften:**
- **Wassergefährdungsklasse: WGK 1 (Selbsteinstufung):** schwach wassergefährdend.
- **15.2 Stoffsicherheitsbeurteilung:** Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.

ABSCHNITT 16: Sonstige Angaben

Die Angaben stützen sich auf den heutigen Stand unserer Kenntnisse, sie stellen jedoch keine Zusicherung von Produkteigenschaften dar und begründen kein vertragliches Rechtsverhältnis.

- **Relevante Sätze**
H225 Flüssigkeit und Dampf leicht entzündbar.
H226 Flüssigkeit und Dampf entzündbar.
H315 Verursacht Hautreizungen.
H317 Kann allergische Hautreaktionen verursachen.
H319 Verursacht schwere Augenreizung.
H335 Kann die Atemwege reizen.
- **Abkürzungen und Akronyme:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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*PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Flam. Liq. 2: Entzündbare Flüssigkeiten – Kategorie 2**Flam. Liq. 3: Entzündbare Flüssigkeiten – Kategorie 3**Skin Irrit. 2: Hautreizende/-ätzende Wirkung – Kategorie 2**Eye Irrit. 2: Schwere Augenschädigung/Augenreizung – Kategorie 2**Skin Sens. 1: Sensibilisierung der Haut – Kategorie 1**STOT SE 3: Spezifische Zielorgan-Toxizität (einmalige Exposition) – Kategorie 3*

DE

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SEZIONE 1: Identificazione della sostanza o della miscela e della società/impresa

- **1.1 Identificatore del prodotto**
- **Denominazione commerciale:** LOWICRYL HM23, MONOMER G
- **Articolo numero:** 14360(G)
- **1.2 Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati**
Non sono disponibili altre informazioni.
- **Utilizzazione della Sostanza / del Preparato** Prodotti chimici per laboratorio
- **1.3 Informazioni sul fornitore della scheda di dati di sicurezza**
- **Produttore/fornitore:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com

Societa Italiana Chimici
Via Rio Nell Ellba 140
00138 Rome, Italy
Tel: 39 06 8800211
Fax: 39 30 06 8815313
Web: www.sichim.com
- **Informazioni fornite da:** Product safety department
- **1.4 Numero telefonico di emergenza:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SEZIONE 2: Identificazione dei pericoli

- **2.1 Classificazione della sostanza o della miscela**
- **Classificazione secondo il regolamento (CE) n. 1272/2008**



GHS02 fiamma

Flam. Liq. 2 H225 Liquido e vapori facilmente infiammabili.



GHS07

Skin Irrit. 2 H315 Provoca irritazione cutanea.
Eye Irrit. 2 H319 Provoca grave irritazione oculare.
Skin Sens. 1 H317 Può provocare una reazione allergica cutanea.
STOT SE 3 H335 Può irritare le vie respiratorie.

- **2.2 Elementi dell'etichetta**
- **Etichettatura secondo il regolamento (CE) n. 1272/2008**
Il prodotto è classificato ed etichettato conformemente al regolamento CLP.

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· **Pittogrammi di pericolo**



GHS02 GHS07

· **Avvertenza Pericolo**

· **Componenti pericolosi che ne determinano l'etichettatura:**

etil-metacrilato

N-BUTYL METHACRYLATE, MONOMER

· **Indicazioni di pericolo**

H225 Liquido e vapori facilmente infiammabili.

H315 Provoca irritazione cutanea.

H319 Provoca grave irritazione oculare.

H317 Può provocare una reazione allergica cutanea.

H335 Può irritare le vie respiratorie.

· **Consigli di prudenza**

P210 Tenere lontano da fonti di calore, superfici riscaldate, scintille, fiamme e altre fonti di innesco. Vietato fumare.

P303+P361+P353 IN CASO DI CONTATTO CON LA PELLE (o con i capelli): togliere immediatamente tutti gli indumenti contaminati. Sciacquare la pelle/fare una doccia.

P305+P351+P338 IN CASO DI CONTATTO CON GLI OCCHI: sciacquare accuratamente per parecchi minuti. Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.

P321 Trattamento specifico (vedere su questa etichetta).

P405 Conservare sotto chiave.

P501 Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.

· **2.3 Altri pericoli**

· **Risultati della valutazione PBT e vPvB**

· **PBT:** Non applicabile.

· **vPvB:** Non applicabile.

SEZIONE 3: Composizione/informazioni sugli ingredienti

· **3.2 Caratteristiche chimiche: Miscele**

· **Descrizione:** Miscela delle seguenti sostanze con additivi non pericolosi.

· **Sostanze pericolose:**

CAS: 97-63-2 EINECS: 202-597-5	etil-metacrilato ⚠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	50-100%
	N-BUTYL METHACRYLATE, MONOMER ⚠ Flam. Liq. 3, H226; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	25-50%

· **Ulteriori indicazioni:** Il testo dell'avvertenza dei pericoli citati può essere appreso dal capitolo 16

SEZIONE 4: Misure di primo soccorso

· **4.1 Descrizione delle misure di primo soccorso**

· **Inalazione:**

Portare il soggetto in zona molto ben areata e per sicurezza consultare un medico.

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- Se il soggetto è svenuto provvedere a tenerlo durante il trasporto in posizione stabile su un fianco.
- **Contatto con la pelle:** Lavare immediatamente con acqua e sapone sciacquando accuratamente.
- **Contatto con gli occhi:**
Lavare con acqua corrente per diversi minuti tenendo le palpebre ben aperte. Se persiste il dolore consultare il medico.
- **Ingestione:** Se il dolore persiste consultare il medico.
- **4.2 Principali sintomi ed effetti, sia acuti che ritardati** Non sono disponibili altre informazioni.
- **4.3 Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**
Non sono disponibili altre informazioni.

SEZIONE 5: Misure antincendio

- **5.1 Mezzi di estinzione**
- **Mezzi di estinzione idonei:**
CO₂, polvere o acqua nebulizzata. Estinguere gli incendi di grosse dimensioni con acqua nebulizzata o con schiuma resistente all'alcool.
- **5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela** Non sono disponibili altre informazioni.
- **5.3 Raccomandazioni per gli addetti all'estinzione degli incendi**
- **Mezzi protettivi specifici:** Non sono richiesti provvedimenti particolari.

SEZIONE 6: Misure in caso di rilascio accidentale

- **6.1 Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza**
Indossare equipaggiamento protettivo. Allontanare le persone non equipaggiate.
- **6.2 Precauzioni ambientali:**
Diluire abbondantemente con acqua.
Impedire infiltrazioni nella fognatura/nelle acque superficiali/nelle acque freatiche.
- **6.3 Metodi e materiali per il contenimento e per la bonifica:**
Raccogliere il liquido con materiale assorbente (sabbia, tripoli, legante di acidi, legante universale, segatura).
Provvedere ad una sufficiente areazione.
- **6.4 Riferimento ad altre sezioni**
Per informazioni relative ad una manipolazione sicura, vedere capitolo 7.
Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.
Per informazioni relative allo smaltimento vedere Capitolo 13.

SEZIONE 7: Manipolazione e immagazzinamento

- **7.1 Precauzioni per la manipolazione sicura**
Accurata ventilazione/aspirazione nei luoghi di lavoro.
Evitare la formazione di aerosol.
- **Indicazioni in caso di incendio ed esplosione:**
Tenere lontano da fonti di calore, non fumare.
Proteggere dal calore.
Adottare provvedimenti contro cariche elettrostatiche.
- **7.2 Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**
- **Stoccaggio:**
- **Requisiti dei magazzini e dei recipienti:** Conservare in ambiente fresco.
- **Indicazioni sullo stoccaggio misto:** Non necessario.
- **Ulteriori indicazioni relative alle condizioni di immagazzinamento:**
Mantenere i recipienti ermeticamente chiusi.
Conservare in luogo fresco e asciutto in fusti ben chiusi.

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- Proteggere dal calore e dai raggi diretti del sole.
· **7.3 Usi finali particolari** Non sono disponibili altre informazioni.

SEZIONE 8: Controllo dell'esposizione/protezione individuale

- **Ulteriori indicazioni sulla struttura di impianti tecnici:** Nessun dato ulteriore, vedere punto 7.
- **8.1 Parametri di controllo**
- **Componenti i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro:**
Il prodotto non contiene quantità rilevanti di sostanze i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro.
- **Ulteriori indicazioni:** Le liste valide alla data di compilazione sono state usate come base.
- **8.2 Controlli dell'esposizione**
- **Mezzi protettivi individuali:**
- **Norme generali protettive e di igiene del lavoro:**
Tenere lontano da cibo, bevande e foraggi.
Togliere immediatamente gli abiti contaminati.
Lavarsi le mani prima dell'intervallo o a lavoro terminato.
Evitare il contatto con gli occhi e la pelle.
- **Maschera protettiva:**
Nelle esposizioni brevi e minime utilizzare la maschera; nelle esposizioni più intense e durature indossare l'autorespiratore.
- **Guanti protettivi:**



Guanti protettivi

Il materiale dei guanti deve essere impermeabile e stabile contro il prodotto/ la sostanza/ la formulazione.
A causa della mancanza di tests non può essere consigliato alcun tipo di materiale per i guanti con cui manipolare il prodotto / la formulazione / la miscela di sostanze chimiche.
Scelta del materiale dei guanti in considerazione dei tempi di passaggio, dei tassi di permeazione e della degradazione.

- **Materiale dei guanti**
La scelta dei guanti adatti non dipende soltanto dal materiale bensì anche da altre caratteristiche di qualità variabili da un produttore a un altro. Poiché il prodotto rappresenta una formulazione di più sostanze, la stabilità dei materiali dei guanti non è calcolabile in anticipo e deve essere testata prima dell'impiego
- **Tempo di permeazione del materiale dei guanti**
Richiedere dal fornitore dei guanti il tempo di passaggio preciso il quale deve essere rispettato.
- **Occhiali protettivi:**



Occhiali protettivi a tenuta

SEZIONE 9: Proprietà fisiche e chimiche

- **9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali**
- **Indicazioni generali**
- **Aspetto:**
- **Forma:** Liquido

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· Colore:	Incolore
· Odore:	Non caratteristico.
· Soglia olfattiva:	Non definito.
· valori di pH:	Non definito.
· Cambiamento di stato	
Temperatura di fusione/ambito di fusione:	Non definito.
Temperatura di ebollizione/ambito di ebollizione:	119 °C
· Punto di infiammabilità:	18 °C
· Infiammabilità (solido, gassoso):	Non applicabile.
· Temperatura di accensione:	
Temperatura di decomposizione:	Non definito.
· Autoaccensione:	Prodotto non autoinfiammabile.
· Pericolo di esplosione:	Prodotto non è esplosivo, è tuttavia possibile la formazione di miscele di vapori/aria esplosive.
· Limiti di infiammabilità:	
Inferiore:	1,8 Vol %
Superiore:	Non definito.
· Tensione di vapore:	Non definito.
· Densità a 20 °C:	0,9388 g/cm ³
· Densità relativa	Non definito.
· Densità del vapore	Non definito.
· Velocità di evaporazione	Non definito.
· Solubilità in/Miscibilità con acqua:	Completamente miscibile.
· Coefficiente di distribuzione (n-Octanol/acqua):	Non definito.
· Viscosità:	
Dinamica:	Non definito.
Cinematica:	Non definito.
· Tenore del solvente:	
Solventi organici:	0,0 %
VOC (CE)	0,00 %
· 9.2 Altre informazioni	Non sono disponibili altre informazioni.

SEZIONE 10: Stabilità e reattività

- **10.1 Reattività** Non sono disponibili altre informazioni.
- **10.2 Stabilità chimica**
- **Decomposizione termica/ condizioni da evitare:** Il prodotto non si decompone se utilizzato secondo le norme.
- **10.3 Possibilità di reazioni pericolose** Non sono note reazioni pericolose.
- **10.4 Condizioni da evitare** Non sono disponibili altre informazioni.
- **10.5 Materiali incompatibili:** Non sono disponibili altre informazioni.
- **10.6 Prodotti di decomposizione pericolosi:** Non sono noti prodotti di decomposizione pericolosi.

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SEZIONE 11: Informazioni tossicologiche

- **11.1 Informazioni sugli effetti tossicologici**
- **Tossicità acuta** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

- **Valori LD/LC50 rilevanti per la classificazione:**

97-63-2 etil-metacrilato		
Orale	LD50	14800 mg/kg (rat)

- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea**
Provoca irritazione cutanea.
- **Lesioni oculari gravi/irritazioni oculari gravi**
Provoca grave irritazione oculare.
- **Sensibilizzazione respiratoria o cutanea**
Può provocare una reazione allergica cutanea.
- **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**
- **Mutagenicità delle cellule germinali**
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Cancerogenicità** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità per la riproduzione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione singola**
Può irritare le vie respiratorie.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione ripetuta**
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Pericolo in caso di aspirazione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

SEZIONE 12: Informazioni ecologiche

- **12.1 Tossicità**
- **Tossicità acquatica:** Non sono disponibili altre informazioni.
- **12.2 Persistenza e degradabilità** Non sono disponibili altre informazioni.
- **12.3 Potenziale di bioaccumulo** Non sono disponibili altre informazioni.
- **12.4 Mobilità nel suolo** Non sono disponibili altre informazioni.
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**
Pericolosità per le acque classe 1 (D) (Autoclassificazione): poco pericoloso
Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature non diluito o in grandi quantità.
- **12.5 Risultati della valutazione PBT e vPvB**
- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.
- **12.6 Altri effetti avversi** Non sono disponibili altre informazioni.

SEZIONE 13: Considerazioni sullo smaltimento

- **13.1 Metodi di trattamento dei rifiuti**
- **Consigli:** Non smaltire il prodotto insieme ai rifiuti domestici Non immettere nelle fognature.
- **Imballaggi non puliti:**
- **Consigli:** Smaltimento in conformità con le disposizioni amministrative.

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· **Detergente consigliato:** Acqua eventualmente con l'aggiunta di detersivi.

SEZIONE 14: Informazioni sul trasporto

· **14.1 Numero ONU**

· **ADR, IMDG, IATA**

UN1993

· **14.2 Nome di spedizione dell'ONU**

· **ADR**

1993 LIQUIDO INFIAMMABILE, N.A.S. (METACRILATO DI ETILE STABILIZZATO, METACRILATO DI n-BUTILE STABILIZZATO)

· **IMDG, IATA**

FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, n-BUTYL METHACRYLATE, STABILIZED)

· **14.3 Classi di pericolo connesso al trasporto**

· **ADR, IMDG, IATA**



· **Classe**

3 Liquidi infiammabili

· **Etichetta**

3

· **14.4 Gruppo di imballaggio**

· **ADR, IMDG, IATA**

II

· **14.5 Pericoli per l'ambiente:**

Non applicabile.

· **14.6 Precauzioni speciali per gli utilizzatori**

Attenzione: Liquidi infiammabili

· **Numero Kemler:**

33

· **Numero EMS:**

F-E,S-E

· **Stowage Category**

B

· **14.7 Trasporto di rifiuti secondo l'allegato II di MARPOL ed il codice IBC**

Non applicabile.

· **Trasporto/ulteriori indicazioni:**

· **ADR**

· **Quantità limitate (LQ)**

1L

· **Quantità esenti (EQ)**

Codice: E2

Quantità massima netta per imballaggio interno: 30 ml

Quantità massima netta per imballaggio esterno: 500 ml

· **Categoria di trasporto**

2

· **Codice di restrizione in galleria**

D/E

· **IMDG**

· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

(continua a pagina 8)

Scheda di dati di sicurezza
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 30.09.2016

Revisione: 30.09.2016

Denominazione commerciale: LOWICRYL HM23, MONOMER G

(Segue da pagina 7)

· UN "Model Regulation":	UN 1993 LIQUIDO INFIAMMABILE, N.A.S. (METACRILATO DI ETILE STABILIZZATO, METACRILATO DI N-BUTILE STABILIZZATO), 3, II
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SEZIONE 15: Informazioni sulla regolamentazione

- **15.1 Disposizioni legislative e regolamentari su salute, sicurezza e ambiente specifiche per la sostanza o la miscela**
- **Direttiva 2012/18/UE**
- **Sostanze pericolose specificate - ALLEGATO I** Nessuno dei componenti è contenuto.
- **Categoria Seveso P5c** LIQUIDI INFIAMMABILI
- **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia inferiore** 5.000 t
- **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia superiore** 50.000 t
- **REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII** Restrizioni: 3
- **15.2 Valutazione della sicurezza chimica:** Una valutazione della sicurezza chimica non è stata effettuata.

SEZIONE 16: Altre informazioni

I dati sono riportati sulla base delle nostre conoscenze attuali, non rappresentano tuttavia alcuna garanzia delle caratteristiche del prodotto e non motivano alcun rapporto giuridico contrattuale.

- **Fraasi rilevanti**
- H225 Liquido e vapori facilmente infiammabili.
- H226 Liquido e vapori infiammabili.
- H315 Provoca irritazione cutanea.
- H317 Può provocare una reazione allergica cutanea.
- H319 Provoca grave irritazione oculare.
- H335 Può irritare le vie respiratorie.
- **Abbreviazioni e acronimi:**
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 2: Liquidi infiammabili – Categoria 2
- Flam. Liq. 3: Liquidi infiammabili – Categoria 3
- Skin Irrit. 2: Corrosione/irritazione della pelle – Categoria 2
- Eye Irrit. 2: Gravi lesioni oculari/irritazione oculare – Categoria 2
- Skin Sens. 1: Sensibilizzazione della pelle – Categoria 1
- STOT SE 3: Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 3

물질안전보건자료 GHS에 따라

기압점: 2016.09.30

개정: 2016.09.30

1 화학제품과 회사에 관한 정보

- **제품 식별자**
- **제품명: LOWICRYL HM23, MONOMER G**
- **상품번호: 14360(G)**
- **해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도** 추가적인 정보가 존재하지 않습니다.
- **제품의 권고 용도와 사용상의 제한:** 실험실화학품
- **안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보**
- **제조사/수입자/유통업자 정보:**
 Electron Microscopy Sciences
 1560 Industry Road
 USA-Hatfield, PA 19440
 Tel: 215-412-8400 Fax: 215-412-8450
 email: sgkcck@aol.com
 www.emsdiasum.com
- **Samchang Commercial Co., Ltd.**
 Yeo Eui Do
 PO Box 1110
 Seoul, Korea
 Tel: 82 2 703 3040
 Fax: 82 2 717 3298
- **추가적인 정보 획득 가능:** Product safety department
- **비상연락 전화번호:**
 ChemTrec 1-800-424-9300 Contract CCN7661
 1-703-527-3887

2 유해성·위험성

- **순물질 또는 혼합물의 분류**



화염

인화성 액체 - 구분 2

H225 고인화성 액체 및 증기



피부 부식성/피부 자극성 - 구분 2

H315 피부에 자극을 일으킴

심한 눈 손상성/눈 자극성 - 구분 2

H319 눈에 심한 자극을 일으킴

피부 과민성 - 구분 1

H317 알레르기성 피부 반응을 일으킬 수 있음

특정표적장기 독성 - 1회 노출 - 구분 3

H335 호흡기계 자극을 일으킬 수 있음

- **라벨표기 요소**

- **GHS 라벨 요소**

본 제품은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

- **그림문자**



GHS02



GHS07

(2 쪽에 계속)

물질안전보건자료

GHS에 따라

기압점: 2016.09.30

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제품명: LOWICRYL HM23, MONOMER G

(1 쪽부터계속)

- **신호어 위험**
- **상표상에명확히위험성이표시된성분:**
ethyl methacrylate
N-BUTYL METHACRYLATE, MONOMER
- **유해.위험 문구**
고인화성 액체 및 증기
피부에 자극을 일으킴
눈에 심한 자극을 일으킴
알레르기성 피부 반응을 일으킬 수 있음
호흡기계 자극을 일으킬 수 있음
- **예방조치 문구**
열·스파크·화염·고열로부터 멀리하십시오 - 금연
피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗으시오. 피부를 물로 씻으시오/샤워하십시오.
눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하십시오. 계속 씻으시오.
(라벨 참조) 처치를 하시오.
잠금장치가 있는 저장장소에 저장 하시오.
현지/지역/국가/국제 규정에 따라서 내용물/용기 노출
- **기타 유해성**
- **PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과**
- **PBT(잔류성, 생물농축성, 독성 물질):** 해당사항 없음.
- **vPvB(고 잔류성, 고 생물농축성 물질):** 해당사항 없음.

3 구성성분의 명칭 및 함유량

- **화 학 적 특 성:** 혼합물
- **설 명:** 무해한 첨 가 물 이 함유된 아래에 열 거 된 물 질 로 만 들 어 진 혼 합 물.

· **위험 요소:**

97-63-2	ethyl methacrylate ⚠ 인화성 액체 - 구분 2, H225; ⚠ 피부 부식성/피부 자극성 - 구분 2, H315; 심한 눈 손상성/눈 자극성 - 구분 2, H319; 피부 과민성 - 구분 1, H317; 특정표적장기 독성 - 1회 노출 - 구분 3, H335	50-100%
	N-BUTYL METHACRYLATE, MONOMER ⚠ 인화성 액체 - 구분 3, H226; ⚠ 피부 부식성/피부 자극성 - 구분 2, H315; 심한 눈 손상성/눈 자극성 - 구분 2, H319; 피부 과민성 - 구분 1, H317; 특정표적장기 독성 - 1회 노출 - 구분 3, H335	25-50%

4 응급조치 요령

- **응급조치요령 내용**
- **흡입했을 때:**
신선한 공기를 쐬고 나서 반드시 의 료진 의 도움 을 구 한다.
환자 가 의식 을 잃었 을 경우 에는 안 전 한 자세 에서 환 자 를 운 반 한 다.
- **피부에 접촉했을 때:** 즉시 물 과 비누 로 씻 고 잘 행 군 다.
- **눈에 들어갔을 때:** 흐 르 는 물 에 눈 을 몇 분 동 안 씻 어 내 고 나 서, 증 상 이 지 속 될 경 우 에는 의 사 와 상 담 한 다
- **먹었을 때:** 증 상 이 지 속 될 경 우 에는 의 사 와 상 담 한 다.
- **기타 의사의 주의사항:**
- **가장 중요한 급·만성 증상 및 영향** 추가적인 정보가 존재하지 않습니다.
- **즉각적인 의료처치 및 특별치료가 필요함을 시사하는 징후** 추가적인 정보가 존재하지 않습니다.

KR

(3 쪽에계속)

물질안전보건자료

GHS에 따라

기압점: 2016.09.30

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제품명: LOWICRYL HM23, MONOMER G

(2 쪽부터계속)

5 폭발·화재시 대처방법

- 소화제
- 적절한 소화제:
이산화탄소, 진화용 석회 가루 또는 물 방사를 사용하고, 더 큰 화재는 물을 분사하거나 알코올이 함유된 거품으로 끈다.
- 본 화학물질이나 혼합물에서 발생하는 특별한 유해성 추가적인 정보가 존재하지 않습니다.
- 소방관에 대한 권고사항
- 화재 진압 시 착용할 보호구 및 예방조치: 특별한 조치가 필요없음.

6 누출 사고 시 대처방법

- 개인적 예방조치, 보호장비 및 응급처치 절차 안전장비 착용하고, 무방비의 사람은 격리시킨다.
- 환경 관련 예방조치:
많은 물로 희석시킨다.
하수도망/해수면위의물/지하수로도달하지않게한다.
- 밀폐 및 정화 방법과 소재:
액체가 혼합된 물질 (모래, 규조토, 산성결합물, 일반결합물, 톱밥)에 흡입되도록 한다.
충분한 환기가 되도록 한다.
- 타 섹션 참조
안전관리에 대한 정보는 제7장을 참고하십시오.
개인보호장비에 대한 정보는 제8장을 참고하십시오.
쓰레기처리에 대한 정보는 제13장을 참고하십시오.

7 취급 및 저장방법

- 취급:
- 안전 취급을 위한 예방조치
작업장에서는 통풍이 잘 되고 습기 제거가 잘 되게 주의한다.
연무질이 형성되는 것을 피한다.
- 화재 및 폭발 사고 예방대책에 관한 정보:
발화요소는 멀리 둔다. 급연.
열로부터 보호한다.
정전기의 충전으로부터 보호한다.
- 혼합위험성 등 안전 저장 조건
- 보관:
- 안전한 저장 방법: 차가운 장소에 보관한다.
- 하나의 공동 보관 시설에 대한 보관 관련 정보: 필요없음
- 보관 조건에 관한 추가적인 정보:
용기를 새지 않게 밀폐한 채 보관한다.
밀폐된 용기 속에서 늘 하고 건조하게 보관한다.
열이나 직사광선으로부터 보호한다.
- 구체적인 최종 사용자 추가적인 정보가 존재하지 않습니다.

8 노출방지 및 개인보호구

- 첨단시설 디자인에 대한 추가정보: 더 이상 의 자료는 없음. 항목 7을 참고하십시오.
- 통제 변수
- 화학물질의 노출기준, 생물학적 노출기준 등:
본 제품에는 작업장에서 감시가 필요한 주요한 가치의 어떤 해당 재료의 양을 함유하고 있지 않다.

(4 쪽에계속)

물질안전보건자료

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(3 쪽부터계속)

· **추 가 정보:** 제 조 할 당시에 유 효 한 목 록을 기초로 사용했다.

· **노출 통제**

· **개인 보호구**

· **일반적보호조치및위생조치:**

· 식료품, 음료수와 사료로부터 멀리떨어뜨려 놓는다.

· 더러워지거나 음료수가 묻은 옷은 즉시 탈의한다.

· 휴식 전 이나 작업이 끝날때마다 손을 씻는다.

· 눈과 피부와의 접촉은 피한다.

· **호흡기 보호:**

· 단 시간 또는 경미한 오염의 경우에는 호흡 여과기를 사용한다. 심각한 또는 장기간 노출시에는

· 호흡보호장비를 사용한다.

· **손 보호:**



보호용 장갑

장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.

테스트를 하지 않았기 때문에 제품 / 조제 / 화학 혼합 물에 적합한 장갑재질에 대한 추천이 없다.

투과 시간, 침투율과 저하를 고려해서 장갑 재료를 선택한다.

· **장갑의재료**

· 적합한장갑의선정은재질차이뿐아니라품질기준의차이도고려하여이루어져야하고제조업종에따라서도다

· 르게선정되어야한다. 제품은다양한재료로부터의조제로이루어지는것이기때문에, 장갑재질의안정성은사

· 전에예측되어질수있는것이아니고, 반드시사용전에 (그안전성이) 체크되어야한다.

· **장갑재료의투과시간** 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

· **눈 보호:**



팍조이는보안경

9 물리화학적 특성

· **기본 물리 및 화학적 특성에 대한 정보**

· **일반정보**

· **외형**

· 물리적 상태: 액체

· 색: 색소가없는

· **냄새:** 특색없는

· **후각역치** 알맞지않다.

· **pH:** 알맞지않다.

· **상태변화**

· 녹는점/어는점: 맞지않는

· 초기 끓는점과 끓는점 범위: 119 °C

· **인화점:** 18 °C

· **인화성(고체, 기체):** 해당사항 없음.

· **점화온도:**

· 분해 온도: 알맞지않다.

(5 쪽에계속)

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· 자기점화:	이제품은자연발화성이없다.
· 폭발위험:	이제품은폭발위험성이없지만, 폭발가능성이있는증기화합물/공기화합물의형성가능성이있다.
· 인화 또는 폭발 범위의 상한/하한 아래로:	1.8 Vol %
위로:	알맞지않다.
· 증기압:	알맞지않다.
· 밀도 의경우 20 °C:	0.9388 g/cm ³
· 비중:	알맞지않다.
· 증기밀도:	알맞지않다.
· 증발 속도:	알맞지않다.
· 용해도: 물:	완전히혼합할수있는
· n 옥탄올/물 분배계수:	알맞지않다.
· 점도: 역학성:	알맞지않다.
동점성:	알맞지않다.
· 용매내용물 유기용매:	0.0 %
VOC (EU)	0.00 %
· 기타 정보	추가적인 정보가 존재하지 않습니다.

10 안정성 및 반응성

- 반응성 추가적인 정보가 존재하지 않습니다.
- 화학적 안정성
- 화학적 안정성 및 유해 반응의 가능성 / 피해야 할 조건: 규정에따라사용할경우해체는없다
- 유해반응 가능성 위험한반응으로는알려지지않았다.
- 피해야 할 조건 추가적인 정보가 존재하지 않습니다.
- 혼합 금지 물질: 추가적인 정보가 존재하지 않습니다.
- 유해분해물질: 위험성있는분해물들은알려지지않았다.

11 독성에 관한 정보

- 독성학적 영향에 대한 정보
- 급성 독성:

· LD/LC50-수치에 따른 분류:
97-63-2 ethyl methacrylate
구강의 LD50 14800 mg/kg (rat)

- 입차적 자극 효과:
- 피부 부식성 또는 자극성: 피부와점막을자극한다.
- 심한 눈 손상 또는 자극성: 자극
- 감각화: 피부접촉을통하여감각화가가능성이있다.

추 가 적 인 독 성 에 관 한 정 보:

이제품은유럽공동체의공동분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의사전준비에대하여제시하고있다.

(6 쪽에계속)

물질안전보건자료

GHS에 따라

기압점: 2016.09.30

개정: 2016.09.30

제품명: LOWICRYL HM23, MONOMER G

자극적인

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12 환경에 미치는 영향

- **독성**
- **수생독성:** 추가적인 정보가 존재하지 않습니다.
- **지속성 및 분해성** 추가적인 정보가 존재하지 않습니다.
- **환경 시스템에서의 행동:**
- **생물농축 잠재성** 추가적인 정보가 존재하지 않습니다.
- **토양내 이동성** 추가적인 정보가 존재하지 않습니다.
- **추가적인 생태학 정보:**
- **일반 특징:**
수질오염등급 1 (자체등급분류): 약하게수질오염이된
희석시키지않은채대량으로지하수나, 하천으로그리고하수도망에도달하지않게한다.
- **PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과**
- **PBT(잔류성, 생물농축성, 독성 물질):** 해당사항 없음.
- **vPvB(고 잔류성, 고 생물농축성 물질):** 해당사항 없음.
- **기타 부작용** 추가적인 정보가 존재하지 않습니다.

13 폐기시 주의사항

- **폐기물 처리 방법**
- **권고:** 생활쓰레기와함께처리되어서는안된다. 하수도망으로유입되어서는안된다.
- **비위생적 포장:**
- **권고:** 당국의지침에입각한쓰레기처리.
- **추천 세정제:** 경우에따라서세제가첨가된물

14 운송에 필요한 정보

<ul style="list-style-type: none"> · 유엔 번호 · ADR, IMDG, IATA 	<p style="text-align: center;">UN1993</p>
<ul style="list-style-type: none"> · UN 적정 선적명 · ADR · IMDG, IATA 	<p>1993 FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, n-BUTYL METHACRYLATE, STABILIZED)</p> <p>FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, n-BUTYL METHACRYLATE, STABILIZED)</p>
<ul style="list-style-type: none"> · 교통 위험 클래스 · ADR, IMDG, IATA 	
	<ul style="list-style-type: none"> · 등급 · 위험물 라벨
	<p style="text-align: center;">3 발화성용액</p> <p style="text-align: center;">3</p>

(7 쪽에계속)

물질안전보건자료

GHS에 따라

기압점: 2016.09.30

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<ul style="list-style-type: none"> · 용기등급 · ADR, IMDG, IATA 	<p style="text-align: center;">II</p>
<ul style="list-style-type: none"> · 환경적 유해물질: 	<p>해당사항 없음.</p>
<ul style="list-style-type: none"> · 이용자 특별 예방조치 · 위험 코드: · EMS-번호: · Stowage Category 	<p>경고: 발화성용액 33 F-E,S-E B</p>
<ul style="list-style-type: none"> · MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송 	<p>해당사항 없음.</p>
· 운 송/추가 정보:	
<ul style="list-style-type: none"> · ADR · 한정 수량 (LQ) · Excepted quantities (EQ) 	<p>1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p>
<ul style="list-style-type: none"> · 운송 구분 · 터널 제한 코드 	<p>2 D/E</p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p>
<ul style="list-style-type: none"> · UN "모범 규제": 	<p>UN 1993 FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, N-BUTYL METHACRYLATE, STABILIZED), 3, II</p>

15 법적 규제현황

· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률

· Korean Existing Chemical Inventory		
97-63-2	ethyl methacrylate	KE-25002
	N-BUTYL METHACRYLATE, MONOMER	KE-24922
150-76-5	mequinol	KE-23353

· 화학물질관리법

· 사고대비물질	
어떠한내용물도 목록화 되어있지않다	

· 금지물질

어떠한내용물도 목록화 되어있지않다	
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· 제한물질

어떠한내용물도 목록화 되어있지않다	
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· 유독물질

어떠한내용물도 목록화 되어있지않다	
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(8 쪽에계속)

물질안전보건자료

GHS에 따라

기압점: 2016.09.30

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(7 쪽부터계속)

· 허가물질

어떠한내용물도목록화되어있지않다

· GHS 라벨 요소

본 제품은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

· 그림문자



GHS02 GHS07

· 신호어 위험

· 상표상에명확히위험성이표시된성분:

ethyl methacrylate
N-BUTYL METHACRYLATE, MONOMER

· 유해.위험 문구

고인화성 액체 및 증기
피부에 자극을 일으킴
눈에 심한 자극을 일으킴
알레르기성 피부 반응을 일으킬 수 있음
호흡기계 자극을 일으킬 수 있음

· 예방조치 문구

열·스파크·화염·고열로부터 멀리하십시오 - 금연
피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗으시오. 피부를 물로 씻으시오/샤워하십시오.
눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하십시오. 계속 씻으시오.
(라벨 참조) 처치를 하시오.
잠금장치가 있는 저장장소에 저장 하시오.
현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

· 화학물질 안전성 평가: 화학물질 안전성 평가가 수행되지 않음

16 그 밖의 참고사항

이보고는우리지식에대한오늘날의상태에대하여평가하고있다, 하지만이보고서는생산특성에관한보증은 기술하지않았으며계약적인법률관계에기반을두고있지도않다

· 최초 작성일자: 2016.09.30

· 개정 횟수 및 최종 개정일자: 1 / 2016.09.30

· 약어와 두문자어:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 30.09.2016

Revisión: 30.09.2016

SECCIÓN 1: Identificación de la sustancia o la mezcla y de la sociedad o la empresa

- **1.1 Identificador del producto**
- **Nombre comercial:** LOWICRYL HM23, MONOMER G
- **Número del artículo:** 14360(G)
- **1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados**
No existen más datos relevantes disponibles.
- **Utilización del producto / de la elaboración** Sustancias químicas de laboratorio
- **1.3 Datos del proveedor de la ficha de datos de seguridad**
- **Fabricante/distribuidor:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Aname**
C/ Perez Galdos no. 2
28693 Quijorna
Madrid, Spain
Tel: +34.91.816.89.50
Fax: +34.91.816.85.94
email: ventas@aname.es
- **Área de información:** Product safety department
- **1.4 Teléfono de emergencia:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SECCIÓN 2: Identificación de los peligros

- **2.1 Clasificación de la sustancia o de la mezcla**
- **Clasificación con arreglo al Reglamento (CE) n° 1272/2008**



GHS02 llama

Flam. Liq. 2 H225 Líquido y vapores muy inflamables.



GHS07

Skin Irrit. 2 H315 Provoca irritación cutánea.

Eye Irrit. 2 H319 Provoca irritación ocular grave.

Skin Sens. 1 H317 Puede provocar una reacción alérgica en la piel.

STOT SE 3 H335 Puede irritar las vías respiratorias.

- **2.2 Elementos de la etiqueta**
- **Etiquetado con arreglo al Reglamento (CE) n° 1272/2008**
El producto se ha clasificado y etiquetado de conformidad con el reglamento CLP.

(se continua en página 2)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

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Nombre comercial: **LOWICRYL HM23, MONOMER G**

(se continua en página 1)

· **Pictogramas de peligro**

GHS02 GHS07

· **Palabra de advertencia Peligro**· **Componentes peligrosos a indicar en el etiquetaje:**

metracrilato de etilo

N-BUTYL METHACRYLATE, MONOMER

· **Indicaciones de peligro**

H225 Líquido y vapores muy inflamables.

H315 Provoca irritación cutánea.

H319 Provoca irritación ocular grave.

H317 Puede provocar una reacción alérgica en la piel.

H335 Puede irritar las vías respiratorias.

· **Consejos de prudencia**

P210

Mantener alejado del calor, de superficies calientes, de chispas, de llamas abiertas y de cualquier otra fuente de ignición. No fumar.

P303+P361+P353 EN CASO DE CONTACTO CON LA PIEL (o el pelo): Quitar inmediatamente todas las prendas contaminadas. Aclararse la piel con agua/ ducharse.

P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Aclarar cuidadosamente con agua durante varios minutos. Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando.

P321

Se necesita un tratamiento específico (ver en esta etiqueta).

P405

Guardar bajo llave.

P501

Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.

· **2.3 Otros peligros**· **Resultados de la valoración PBT y mPmB**· **PBT:** No aplicable.· **mPmB:** No aplicable.

SECCIÓN 3: Composición/información sobre los componentes

· **3.2 Caracterización química: Mezclas**· **Descripción:** Mezcla formada por las sustancias especificadas a continuación con adiciones no peligrosas.· **Componentes peligrosos:**

CAS: 97-63-2 EINECS: 202-597-5	metracrilato de etilo ⚠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; ⚠ Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	50-100%
	N-BUTYL METHACRYLATE, MONOMER ⚠ Flam. Liq. 3, H226; ⚠ Skin Irrit. 2, H315; ⚠ Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	25-50%

· **Indicaciones adicionales:** El texto de los posibles riesgos aquí indicados se puede consultar en el capítulo 16.

SECCIÓN 4: Primeros auxilios

· **4.1 Descripción de los primeros auxilios**· **En caso de inhalación del producto:**

Suministrar suficiente aire fresco y, para mayor seguridad, consultar el médico.

(se continua en página 3)

Ficha de datos de seguridad

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(se continua en página 2)

- *Las personas desmayadas deben tenderse y transportarse de lado con la suficiente estabilidad.*
- **En caso de contacto con la piel:** *Lavar inmediatamente con agua y jabón y enjuagar bien.*
- **En caso de con los ojos:**
Limpia los ojos abiertos durante varios minutos con agua corriente. En caso de trastornos persistentes consultar un médico.
- **En caso de ingestión:** *Consultar un médico si los trastornos persisten.*
- **4.2 Principales síntomas y efectos, agudos y retardados** *No existen más datos relevantes disponibles.*
- **4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**
No existen más datos relevantes disponibles.

SECCIÓN 5: Medidas de lucha contra incendios

- **5.1 Medios de extinción**
- **Sustancias extintoras apropiadas:**
CO2, polvo extintor o chorro de agua rociada. Combatir incendios mayores con chorro de agua rociada o espuma resistente al alcohol.
- **5.2 Peligros específicos derivados de la sustancia o la mezcla** *No existen más datos relevantes disponibles.*
- **5.3 Recomendaciones para el personal de lucha contra incendios**
- **Equipo especial de protección:** *No se requieren medidas especiales.*

SECCIÓN 6: Medidas en caso de vertido accidental

- **6.1 Precauciones personales, equipo de protección y procedimientos de emergencia**
Llevar puesto equipo de protección. Mantener alejadas las personas sin protección.
- **6.2 Precauciones relativas al medio ambiente:**
Diluir con mucha agua.
Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.
- **6.3 Métodos y material de contención y de limpieza:**
Quitar con material absorbente (arena, kieselgur, aglutinante de ácidos, aglutinante universal, aserrín).
Asegurar suficiente ventilación.
- **6.4 Referencia a otras secciones**
Ver capítulo 7 para mayor información sobre una manipulación segura.
Ver capítulo 8 para mayor información sobre el equipo personal de protección.
Para mayor información sobre cómo desechar el producto, ver capítulo 13.

SECCIÓN 7: Manipulación y almacenamiento

- **7.1 Precauciones para una manipulación segura**
Asegurar suficiente ventilación /aspiración en el puesto de trabajo.
Evitar la formación de aerosoles.
- **Prevención de incendios y explosiones:**
Mantener alejadas las fuentes de encendido. No fumar.
Proteger del calor.
Tomar medidas contra las cargas electrostáticas.
- **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
- **Almacenamiento:**
- **Exigencias con respecto al almacén y los recipientes:** *Almacenar en un lugar fresco.*
- **Normas en caso de un almacenamiento conjunto:** *No es necesario.*
- **Indicaciones adicionales sobre las condiciones de almacenamiento:**
Mantener el recipiente cerrado herméticamente.
Almacenarlo en envases bien cerrados en un lugar fresco y seco.

(se continua en página 4)

Ficha de datos de seguridad

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Revisión: 30.09.2016

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(se continua en página 3)

Proteger del calor y de la luz directa del sol.

· **7.3 Usos específicos finales** No existen más datos relevantes disponibles.

SECCIÓN 8: Controles de exposición/protección individual

· **Instrucciones adicionales para el acondicionamiento de instalaciones técnicas:**

Sin datos adicionales, ver punto 7.

· **8.1 Parámetros de control**

· **Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:**

El producto no contiene cantidades relevantes de sustancias con valores límite que exijan un control en el puesto de trabajo.

· **Indicaciones adicionales:** Como base se han utilizado las listas vigentes en el momento de la elaboración.

· **8.2 Controles de la exposición**

· **Equipo de protección individual:**

· **Medidas generales de protección e higiene:**

Mantener alejado de alimentos, bebidas y alimentos para animales.

Quitarse de inmediato la ropa ensuciada o impregnada.

Lavarse las manos antes de las pausas y al final del trabajo.

Evitar el contacto con los ojos y la piel.

· **Protección respiratoria:**

Si la exposición va a ser breve o de poca intensidad, colocarse una máscara respiratoria. Para una exposición más intensa o de mayor duración, usar un aparato de respiración autónomo.

· **Protección de manos:**



Guantes de protección

El material del guante deberá ser impermeable y resistente al producto / sustancia / preparado.

Ante la ausencia de tests específicos, no se puede recomendar ningún material específico para guantes de protección contra el producto / preparado / mezcla de sustancias químicas.

Selección del material de los guantes en función de los tiempos de rotura, grado de permeabilidad y degradación.

· **Material de los guantes**

La elección del guante adecuado no depende únicamente del material, sino también de otras características de calidad, que pueden variar de un fabricante a otro. Teniendo en cuenta que el producto está fabricado a partir de diferentes materiales, su calidad no puede ser evaluada de antemano, de modo que los guantes deberán ser controlados antes de su utilización.

· **Tiempo de penetración del material de los guantes**

El tiempo de resistencia a la penetración exacto deberá ser pedido al fabricante de los guantes. Este tiempo debe ser respetado.

· **Protección de ojos:**



Gafas de protección herméticas

ES

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SECCIÓN 9: Propiedades físicas y químicas

· 9.1 Información sobre propiedades físicas y químicas básicas

· Datos generales

· Aspecto:

Forma: Líquido

Color: Incoloro

· **Olor:** No característico.

· **Umbral olfativo:** No determinado.

· **valor pH:** No determinado.

· Cambio de estado

Punto de fusión /campo de fusión: Indeterminado.

Punto de ebullición /campo de ebullición: 119 °C

· **Punto de inflamación:** 18 °C

· **Inflamabilidad (sólido, gaseiforme):** No aplicable.

· Temperatura de ignición:

Temperatura de descomposición: No determinado.

· **Autoinflamabilidad:** El producto no es autoinflamable.

· **Peligro de explosión:** El producto no es explosivo; sin embargo, pueden formarse mezclas explosivas de vapor / aire.

· Límites de explosión:

Inferior: 1,8 Vol %

Superior: No determinado.

· **Presión de vapor:** No determinado.

· **Densidad a 20 °C:** 0,9388 g/cm³

· **Densidad relativa** No determinado.

· **Densidad de vapor** No determinado.

· **Velocidad de evaporación** No determinado.

· Solubilidad en / miscibilidad con agua:

Completamente mezclable.

· **Coefficiente de reparto (n-octanol/agua):** No determinado.

· Viscosidad:

Dinámica: No determinado.

Cinemática: No determinado.

· Concentración del disolvente:

Disolventes orgánicos: 0,0 %

VOC (CE) 0,00 %

· **9.2 Otros datos** No existen más datos relevantes disponibles.

SECCIÓN 10: Estabilidad y reactividad

· **10.1 Reactividad** No existen más datos relevantes disponibles.

· **10.2 Estabilidad química**

· **Descomposición térmica / condiciones que deben evitarse:** No se descompone al emplearse adecuadamente.

· **10.3 Posibilidad de reacciones peligrosas** No se conocen reacciones peligrosas.

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- **10.4 Condiciones que deben evitarse** No existen más datos relevantes disponibles.
- **10.5 Materiales incompatibles:** No existen más datos relevantes disponibles.
- **10.6 Productos de descomposición peligrosos:** No se conocen productos de descomposición peligrosos.

SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
- **Toxicidad aguda** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

· **Valores LD/LC50 (dosis letal /dosis letal = 50%) relevantes para la clasificación:**

97-63-2 metacrilato de etilo

Oral	LD50	14800 mg/kg (rat)
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- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas**
Provoca irritación cutánea.
- **Lesiones o irritación ocular graves**
Provoca irritación ocular grave.
- **Sensibilización respiratoria o cutánea**
Puede provocar una reacción alérgica en la piel.
- **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**
- **Mutagenicidad en células germinales**
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Carcinogenicidad** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad para la reproducción** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad específica en determinados órganos (STOT) – exposición única**
Puede irritar las vías respiratorias.
- **Toxicidad específica en determinados órganos (STOT) – exposición repetida**
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Peligro de aspiración** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

SECCIÓN 12: Información ecológica

- **12.1 Toxicidad**
- **Toxicidad acuática:** No existen más datos relevantes disponibles.
- **12.2 Persistencia y degradabilidad** No existen más datos relevantes disponibles.
- **12.3 Potencial de bioacumulación** No existen más datos relevantes disponibles.
- **12.4 Movilidad en el suelo** No existen más datos relevantes disponibles.
- **Indicaciones medioambientales adicionales:**
- **Indicaciones generales:**
Nivel de riesgo para el agua 1 (autoclasiificación): escasamente peligroso para el agua
En estado no diluido o no neutralizado, no dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados.
- **12.5 Resultados de la valoración PBT y mPmB**
- **PBT:** No aplicable.
- **mPmB:** No aplicable.
- **12.6 Otros efectos adversos** No existen más datos relevantes disponibles.

SECCIÓN 13: Consideraciones relativas a la eliminación

- **13.1 Métodos para el tratamiento de residuos**
- **Recomendación:** No debe desecharse con la basura doméstica. No debe llegar al alcantarillado.

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- **Embalajes sin limpiar:**
- **Recomendación:** Eliminar conforme a las disposiciones oficiales.
- **Producto de limpieza recomendado:** Agua, eventualmente añadiendo productos de limpieza.

SECCIÓN 14: Información relativa al transporte

- **14.1 Número ONU**
- **ADR, IMDG, IATA**

UN1993

- **14.2 Designación oficial de transporte de las Naciones Unidas**

- **ADR**

1993 LÍQUIDO INFLAMABLE, N.E.P. (METACRILATO DE ETILO ESTABILIZADO, METACRILATO DE n-BUTILO ESTABILIZADO)

- **IMDG, IATA**

FLAMMABLE LIQUID, N.O.S. (ETHYL METHACRYLATE, STABILIZED, n-BUTYL METHACRYLATE, STABILIZED)

- **14.3 Clase(s) de peligro para el transporte**

- **ADR, IMDG, IATA**



- **Clase**
- **Etiqueta**

3 Líquidos inflamables

3

- **14.4 Grupo de embalaje**

- **ADR, IMDG, IATA**

II

- **14.5 Peligros para el medio ambiente:**

No aplicable.

- **14.6 Precauciones particulares para los usuarios**

Atención: Líquidos inflamables

- **Número Kemler:**

33

- **Número EMS:**

F-E,S-E

- **Stowage Category**

B

- **14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC**

No aplicable.

- **Transporte/datos adicionales:**

- **ADR**

- **Cantidades limitadas (LQ)**

1L

- **Cantidades exceptuadas (EQ)**

Código: E2

Cantidad neta máxima por envase interior: 30 ml

Cantidad neta máxima por embalaje exterior: 500 ml

- **Categoría de transporte**

2

- **Código de restricción del túnel**

D/E

- **IMDG**

- **Limited quantities (LQ)**

1L

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· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **"Reglamentación Modelo" de la UNECE:**

UN 1993 LÍQUIDO INFLAMABLE, N.E.P.
(METACRILATO DE ETILO ESTABILIZADO,
METACRILATO DE N-BUTILO ESTABILIZADO), 3, II

SECCIÓN 15: Información reglamentaria

- **15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**
- **Directiva 2012/18/UE**
- **Sustancias peligrosas nominadas - ANEXO I** ninguno de los componentes está incluido en una lista
- **Categoría Seveso P5c LÍQUIDOS INFLAMABLES**
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel inferior** 5.000 t
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel superior** 50.000 t
- **REGLAMENTO (CE) n° 1907/2006 ANEXO XVII Restricciones:** 3
- **15.2 Evaluación de la seguridad química:** Una evaluación de la seguridad química no se ha llevado a cabo.

SECCIÓN 16: Otra información

Los datos se fundan en el estado actual de nuestros conocimientos, pero no constituyen garantía alguna de cualidades del producto y no generan ninguna relación jurídica contractual.

· **Frases relevantes**

H225 Líquido y vapores muy inflamables.

H226 Líquidos y vapores inflamables.

H315 Provoca irritación cutánea.

H317 Puede provocar una reacción alérgica en la piel.

H319 Provoca irritación ocular grave.

H335 Puede irritar las vías respiratorias.

· **Abreviaturas y acrónimos:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Líquidos inflamables – Categoría 2

Flam. Liq. 3: Líquidos inflamables – Categoría 3

Skin Irrit. 2: Corrosión o irritación cutáneas – Categoría 2

Eye Irrit. 2: Lesiones oculares graves o irritación ocular – Categoría 2

Skin Sens. 1: Sensibilización cutánea – Categoría 1

STOT SE 3: Toxicidad específica en determinados órganos (exposición única) – Categoría 3