

Printing date 08/16/2016

Reviewed on 06/09/2016

*** 1 PRODUCT AND COMPANY IDENTIFICATION**

- **Product identifier**
- **Trade name:** EZ Seal Non-Fibered PMMA Resin (Standard Grade)
- **Article numbers:** 760-5
- **Application of the substance / the mixture:** Sealing.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Malarkey Roofing Products
3131 N. Columbia Blvd., Portland, OR 97217-7472
P.O. Box 17217, Portland, OR 97217-0217
USA
Toll Free: 800-545-1191 Fax: 503-289-7644
www.malarkeyroofing.com
- **Technical Contact:**
Matthew Felt
Technical Services Manager
Tel.: 503-283-1191
E-Mail: mfelt@malarkeyroofing.com
- **Emergency telephone number:**
For Chemical Emergency,
Spill Leak, Fire Exposure or Accident
Call CHEMTREC Day or Night
DOMESTIC NORTH AMERICA 800-424-9300
INTERNATIONAL, CALL 703-527-3887 (collect calls accepted)

*** 2 HAZARD(S) IDENTIFICATION**

- **Classification of the substance or mixture**



Flammable liquid and vapor



Causes skin irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.

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



- **Signal word:** Warning

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- **Hazard-determining components of labeling:**
methyl methacrylate
2-ethylhexyl acrylate
- **Hazard statements**
Flammable liquid and vapor.
Causes skin irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
- **Precautionary statements**
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Avoid breathing vapors.
Wear protective gloves / eye protection.
If on skin (or hair): Remove all contaminated clothing. Rinse skin with water/shower.
Call a POISON CENTER/doctor if you feel unwell.
Store in a well-ventilated place. Keep cool.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Does not meet the PBT-criteria of Annex XIII of REACH (self assessment).
- **vPvB:** Does not meet the vPvB-criteria of Annex XIII of REACH (self assessment).

* 3 COMPOSITION / INFORMATION ON INGREDIENTS

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 80-62-6 Index number: 607-035-00-6	methyl methacrylate	10-<25%
CAS: 103-11-7 Index number: 607-107-00-7	2-ethylhexyl acrylate	10-<25%
CAS: 13463-67-7	titanium dioxide	0.1-≤2.5%

* 4 FIRST-AID MEASURES

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Take affected persons out of the danger area and have them lay down. Involve a doctor immediately.
- **After inhalation:**
In case of unconsciousness, place patient on their side for transportation.

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Take affected persons into fresh air and keep them calm and quiet. Seek medical treatment.

- **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.

- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

- **After swallowing:** Do not induce vomiting; immediately call for medical help.

- **Information for doctor:**

- **Most important symptoms and effects, both acute and delayed**

Headache

Dizziness

Skin sensitization.

Irritant to skin, eyes and respiratory system.

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

After inhalation, even in the absence of signs of disease, inhale corticosteroids (e.g., Ventolair).

5 FIRE-FIGHTING MEASURES

- **Extinguishing media**

- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder, foam.

- **For safety reasons unsuitable extinguishing agents:** Water with full jet.

- **Special hazards arising from the substance or mixture:**

Can form explosive gas-air mixtures.

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Carbon monoxide (CO)

Nitrogen oxides (NO_x)

Vapors are heavier than air.

Crawling vapors can result in greater distance from the ignition!

- **Advice for firefighters**

- **Protective equipment:**

Wear fully protective suit.

Wear self-contained respiratory protective device.

- **Additional information:**

Cool endangered receptacles with water spray.

Collect contaminated fire-fighting water separately. It must not enter the sewage system.

6 ACCIDENTAL RELEASE MEASURES

- **Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation.



Keep away from ignition sources.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Wear protective equipment. Keep unprotected persons away.

- **Environmental precautions:**

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

Inform respective authorities in case of seepage into water course or sewage system.

- **Methods and material for containment and cleaning up:**

Do not flush with water or aqueous cleansing agents.

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

- **Reference to other sections**

See Section 7 for information on safe handling.

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See Section 8 for information on personal protective equipment.
See Section 13 for disposal information.

* 7 HANDLING AND STORAGE

- **Handling:**
- **Precautions for safe handling**
Keep cool and protect from heat, especially closed containers, because polymerization and pressure rise will occur with heat. In case of fire, immerse closed containers in water.
Do not refill residue into storage receptacles.
Provide at least 7 air changes per hour.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Highly volatile, flammable constituents are released during processing.
Fumes can combine with air to form an explosive mixture.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store only in the original receptacle.
Store in a cool location.
- **Information about storage in one common storage facility:**
Store away from oxidizing agents.
Store away from foodstuffs.
- **Further information about storage conditions:**
Store in cool, dry conditions in well-sealed receptacles. Max. storage temperature is 30°C.
Storage in a collecting room is required.
Store in an area restricted to authorized personnel.
Keep receptacle tightly sealed.
- **Specific end use(s):** Building coating or sealing.

* 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

80-62-6 methyl methacrylate (10-<20%)

PEL	Long-term value: 410 mg/m ³ , 100 ppm
REL	Long-term value: 410 mg/m ³ , 100 ppm
TLV	Short-term value: 410 mg/m ³ , 100 ppm Long-term value: 205 mg/m ³ , 50 ppm
DSEN	

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Avoid contact with the eyes and skin.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Keep away from foodstuffs, beverages and feed.
Do not inhale gases / fumes / aerosols.

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- **Breathing equipment:**

Ensure good ventilation.

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.

The use of a respiratory protective hood is recommended because if not wearing, time limitations apply.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material should consider penetration times, rates of diffusion and degradation. Preventive skin protection by use of skin-protecting agents is recommended. After use of gloves, apply skin-cleansing agents and skin cosmetics. Check protective gloves prior to each use for their proper condition.

- **Material of gloves**

The selection of suitable gloves not only depends 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 cannot be calculated in advance and should be checked prior to application.

Protective gloves meeting EN 674, such as nitrile gloves, are recommended.

- **Penetration time of glove material**

Recommended for one-time use as short-term protection against liquid splashes. For other applications, you should contact the glove manufacturer.

The exact break-through time is likely listed with the manufacturer of the protective gloves and must be observed.

- **For permanent contact in work areas without heightened risk of injury (e.g., Laboratory) gloves made of the following material are suitable:**

Butyl rubber, BR

- **Not suitable are gloves made of the following materials:** Leather gloves

- **Eye protection:**



Tightly sealed goggles

- **Body protection:**



Protective work clothing

* 9 PHYSICAL AND CHEMICAL PROPERTIES

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

- **General Information**

- **Appearance:**

Form:

Fluid

Color:

Various colors

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· Odor:	Ester-like
· Odor threshold:	Not determined.
· pH-value:	Not determinable.
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	101°C (214°F) (MMA)
· Flash point:	35°C (95°F) (DIN EN ISO 3680)
· Ignition temperature:	252°C (486°F) (2-EHA)
· Auto igniting:	Product is not self-igniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	1.7 Vol % (MMA)
Upper:	12.5 Vol % (MMA)
· Vapor pressure at 20 °C (68 °F):	38.7 hPa (29 mm Hg) (MMA)
· Density at 20 °C (68 °F):	1.21 g/cm ³ (10.097 lbs/gal) (EN-ISO 2811-1)
· Evaporation rate	No data available.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	log Pow: 4.29 (2-EHA); (25 °C, OECD 107) log Pow: 1.38 (MMA)
· Viscosity:	
Dynamic at 20 °C (68 °F):	5000 mPas (EN ISO 2555)
· Solvent content:	
Organic solvents:	0.1 %
VOC content:	0.1 % 1.1 g/l / 0.01 lb/gl
Solids content:	66.0 %
· Other information	No further relevant information available.

*10 STABILITY AND REACTIVITY

· Possibility of hazardous reactions

Exothermic reaction.

Reacts with peroxides and other radical forming substances.

A hazardous polymerization may occur after the exhaustion of the inhibitor.

· Conditions to avoid:

Avoid heat. Avoid direct sunlight.

· Incompatible materials:

Reacts with peroxides and other reducing agents.

· Hazardous decomposition products:

No dangerous decomposition products used according to specifications.

· Additional information:

Emergency procedures will vary depending on individual circumstances. The customer should have a contingency plan in place.

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*11 TOXICOLOGICAL INFORMATION

- **Information on toxicological effects:** There were no toxicological findings to the mixture.
- **Acute toxicity:**

· LD/LC50 values that are relevant for classification:

Oral	LD50	8225 mg/kg (rat)
Inhalative	LC50/4h	123 mg/l (rat)

80-62-6 methyl methacrylate

Oral	LD50	> 5000 mg/kg (rat) (OECD 401)
	NOAEL	2000 ppm (rat) drinking water, 6-2000 ppm Findings: No toxic effects
Dermal	LC50	> 5000 mg/kg (rabbit)
Inhalative	NOAEL	25 ppm (rat) 25 - 400 ppm Findings: Damage to mucous membranes in the nose at 400 ppm
	LC50/4h	29.8 mg/l (rat)

21645-51-2 aluminium hydroxide

Oral	LD50	> 2000 mg/kg (rat)
	NOAEL	30 mg/kg (rat) chronisch
Inhalative	LC50	7.6 mg/l (rat)
	NOAEC	70 mg/m³ (rat)

103-11-7 2-ethylhexyl acrylate

Oral	LD50	4435 mg/kg (rat) (BASF-Test)
Dermal	LC50	7520 mg/kg (hare)

13463-67-7 titanium dioxide

Oral	LD50	> 20000 mg/kg (rat)
Dermal	LC50	> 10000 mg/kg (hare)
Inhalative	LC50/4h	> 6.82 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Other information (about experimental toxicology):**
Due to the high vapor pressure, a harmful concentration in the air can quickly be reached. High concentrations can produce a narcotic effect.
- **Subacute to chronic toxicity:** Not tested.
- **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)

80-62-6	methyl methacrylate	3
103-11-7	2-ethylhexyl acrylate	3
13463-67-7	titanium dioxide	2B
14808-60-7	Quartz (SiO ₂)	1
128-37-0	2,6-di-tert-butyl-p-cresol	3

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7631-86-9	silicon dioxide, chemically prepared	3
13983-17-0	Tremin 283-600 MST	3
· NTP (National Toxicology Program)		
14808-60-7	Quartz (SiO ₂)	K
· OSHA-Ca (Occupational Safety & Health Administration)		
None of the ingredients are listed.		

*12 ECOLOGICAL INFORMATION

· Toxicity	
80-62-6 methyl methacrylate	
EC3/16h	100 mg/l (Pseudomonas putida) (Zellvermehrungshemmtest, Bringmann-Kühn)
· Aquatic toxicity:	
80-62-6 methyl methacrylate	
EC50/48h	69 mg/l (daphnia magna) (OECD 202)
LC50/96h	> 79 mg/l (Rainbow trout) (OECD 203)
ErC50/72h	> 110 mg/l (Pseudokirchneriella subcapitata) (OECD 201)
NOEC/72h	> 110 mg/l (Selenastrum capricornutum) (OECD 201)
EC50/72h	> 110 mg/l (Selenastrum capricornutum) (OECD 201)
NOEC	9.4 mg/l (Danio rerio) (OECD 210) fish early life stage test, 35 days 37 mg/l (daphnia magna) (OECD 211) 21 days
21645-51-2 aluminium hydroxide	
EC50	> 100 mg/l (daphnia magna)
	> 100 mg/l (Selenastrum capricornutum)
LC50	> 100 mg/l (Salmo trutta)
103-11-7 2-ethylhexyl acrylate	
other (28d)	> 1000 mg/kg (Soil microorganisms) (OECD 217) The product has not been tested. The statement has been derived from products of a similar structure or composition.
EC50/48h (static)	1.3 mg/l (daphnia magna) (OECD 202, Part 1)
LC50/96h (static)	1.81 mg/l (Rainbow trout) (OECD 203)
NOEC/21d	0.19 mg/l (daphnia magna) The details of the toxic effect relates to the analytically determined concentration. The product has not been tested. The statement has been derived from products of a similar structure or composition.
EC50/72h (static)	1.71 mg/l (scenedesmus subspicatus) (OECD 201) The details of the toxic effect relates to the analytically determined concentration.

- **Persistence and degradability:** Readily biodegradable.
- **Other information:** The product is readily biodegradable.
- **Behavior in environmental systems:**
- **Bioaccumulative potential:** May be accumulated by some organisms.
- **Mobility in soil**

MMA: High mobility in soil, and a binding to soil, sediment and sewage sludge is not expected. On the surface of water, the substance is slowly evaporated into the atmosphere.

2-EHA: The product floats on water and does not dissolve. Adsorption on soil is not likely.

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- **Additional ecological information:**
- **CSB-value:** 2-EHA: Theoretical oxygen demand (TOD) = 5.6 g/g
- **BSB5-value:** 0.14 g/g (MMA)
- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water
- **Results of PBT and vPvB assessment**
- **PBT:** Does not meet the PBT-criteria of Annex XIII of REACH (self assessment).
- **vPvB:** Does not meet the vPvB-criteria of Annex XIII of REACH (self assessment).
- **Other adverse effects:** No further relevant information available.

*13 DISPOSAL CONSIDERATIONS

- **Waste treatment methods**
Hazardous waste according to Waste Catalogue (EWC). If recycling is not possible, waste must be in compliance with local regulations to be removed.
- **Recommendation:**
Uncured product residues are special waste.
Cured product residues are not hazardous waste.



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- **Uncleaned packagings:**
- **Recommendation:**
This material and its container must be disposed of as hazardous waste.
Disposal must be made according to official regulations.

*14 TRANSPORT INFORMATION

· UN-Number	
· DOT, IATA	UN1263
· ADR, ADN, IMDG	Void
· UN proper shipping name	
· DOT, IATA	Paint
· ADR, ADN, IMDG	Void
· Transport hazard class(es)	
· DOT	
	
· Class	3 Flammable liquids
· Label	3
· ADR, ADN, IMDG	
· Class	Void

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· IATA	
	
· Class	3 Flammable liquids
· Label	3
· Packing group	
· DOT, IATA	III
· ADR, IMDG	Void
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	Classification according to viscosity clause (2.2.3.1.5)
· Remarks:	> 450 l: 3 F1, III
· IMDG	Classification according to viscosity clause (2.3.2.5)
· Remarks:	> 30 l: 3, III
· UN "Model Regulation":	Void

*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 are listed.

· Section 313 (Specific toxic chemical listings):

80-62-6 methyl methacrylate

· TSCA (Toxic Substances Control Act):

80-62-6	methyl methacrylate	123-86-4	n-butyl acetate
21645-51-2	aluminium hydroxide	7447-41-8	lithium chloride
103-11-7	2-ethylhexyl acrylate	7631-86-9	silicon dioxide, chemically prepared
13463-67-7	titanium dioxide	1314-23-4	zirconium dioxide
	Polyethylenglykoldimethacrylat		
1317-61-9	triiron tetraoxide		
3147-75-9	2-(2H-Benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol		
14808-60-7	Quartz (SiO ₂)		
20344-49-4	iron hydroxide oxide		
8002-74-2	Paraffin waxes and Hydrocarbon waxes		
107-98-2	1-methoxy-2-propanol		
128-37-0	2,6-di-tert-butyl-p-cresol		
108-65-6	2-methoxy-1-methylethyl acetate		
	Zinc hydroxystannate		

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	Silan, dichlordimethyl-, Reaction products with silica.
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· **Proposition 65**

· **Chemicals known to cause cancer:**

13463-67-7	titanium dioxide
14808-60-7	Quartz (SiO ₂)

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

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

80-62-6	methyl methacrylate	E, NL
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· **TLV (Threshold Limit Value established by ACGIH)**

80-62-6	methyl methacrylate	A4
13463-67-7	titanium dioxide	A4
14808-60-7	Quartz (SiO ₂)	A2
128-37-0	2,6-di-tert-butyl-p-cresol	A4
1314-23-4	zirconium dioxide	A4

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

13463-67-7	titanium dioxide
14808-60-7	Quartz (SiO ₂)

· **National regulations:**

· **Information about limitation of use:**

Employment restrictions concerning young persons must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

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

*16 OTHER INFORMATION

These figures relate to the product as delivered.

Sector of Use

Relevant identified uses of the mixture

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU19 Building and construction work

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

SU21 Consumer uses: Private households / general public / consumers

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.

· **Training hints**

Knowledge of hazards and precautions is necessary for the handling and use of these chemicals

(Technical Rule 555). Instruction must take place before the start of employment and annually thereafter.

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- **Department issuing SDS:** Division product safety
- **Date of preparation / last revision:** 08/16/2016 / 21
- **Abbreviations and acronyms:**
 - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 - ICAO: International Civil Aviation Organisation
 - 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. 3: Flammable liquids, Hazard Category 3
 - Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 - Skin Sens. 1: Sensitization - Skin, Hazard Category 1
 - STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
- **Sources**
 - www.gestis.de
 - www.echa.eu
 - logkow.cisti.nrc.ca
- *** Data compared to the previous version altered.**

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