



# SAFETY DATA SHEET

## IDENTIFICATION AND EMERGENCY INFORMATION

**PRODUCT NAME:** RamFlash PMMA - Membrane

**MANUFACTURER:**

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CLEVELAND, OH 44114

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**DATE PREPARED:** June 16, 2020

### 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.

Skin Sensitizer - Category 1

H317 May cause an allergic skin reaction.

Specific Target Organ Toxicity - Single Exposure -  
Category 3

H335 May cause respiratory irritation.

Eye Irritation - Category 2B

H320 Causes eye irritation.

· **Label elements**

· **GHS label elements**

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

· **Signal word:** Danger

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

methyl methacrylate

2-ethylhexyl acrylate

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**Hazard statements:**

- H225 Highly flammable liquid and vapour.  
 H315+H320 Causes skin and 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.  
 P235 Keep cool.  
 P240 Ground and bond container and receiving equipment.  
 P241 Use explosion-proof [electrical/ventilating/lighting] equipment.  
 P243 Take actions to prevent static discharges.  
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 P264 Wash thoroughly after handling.  
 P271 Use only outdoors or in a well-ventilated area.  
 P272 Contaminated work clothing should not be allowed out of the workplace.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
 P304+P312 IF INHALED: Call a doctor if you feel unwell.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
 P337+P313 If eye irritation persists: Get medical advice/attention.  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P370+P378 In case of fire: Use for extinction: CO<sub>2</sub>, sand, extinguishing powder.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P405 Store locked up.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**NFPA ratings (scale 0 - 4):**

Health = 1  
 Fire = 3  
 Reactivity = 0

### 3 Composition/information on ingredients

**Chemical characterization: Mixtures**

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

**Dangerous components:**

80-62-6	methyl methacrylate	10-30% w/w *
103-11-7	2-ethylhexyl acrylate	10-30% w/w *
13463-67-7	Titanium Dioxide	10-13% w/w *
7328-22-5	Diethylene glycol butyl ether methacrylate	10-13% w/w *

\* Actual concentration ranges are withheld as a trade secret.

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## 4 First-aid measures

- **After inhalation:**  
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
- **After skin contact:**  
If on skin (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a poison center or doctor if you feel unwell. If skin irritation or a rash occurs: Get medical advice/attention
- **After eye contact:**  
Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. If eye irritation persists get medical advice/attention.
- **After swallowing:** If symptoms persist consult 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

- **Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture:** No further relevant information available.
- **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:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
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.  
Do not flush with water or aqueous cleansing agents
- **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 against electrostatic charges.

- **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.
- **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.

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

### 80-62-6 methyl methacrylate

EL (Canada)	Short-term value: 100 ppm Long-term value: 50 ppm S
EV (Canada)	Short-term value: 100 ppm Long-term value: 50 ppm
PEL (USA)	Long-term value: 410 mg/m <sup>3</sup> , 100 ppm
REL (USA)	Long-term value: 410 mg/m <sup>3</sup> , 100 ppm
TLV (USA)	Short-term value: 410 mg/m <sup>3</sup> , 100 ppm Long-term value: 205 mg/m <sup>3</sup> , 50 ppm DSEN

- **Additional information:** The lists that were valid during the creation were used as basis.
- **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 skin.  
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.  
Use suitable respiratory protective device in case of insufficient ventilation.
- **Protection of hands:**  
Synthetic gloves



Protective gloves

- **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

· <b>Form:</b>	Liquid
· <b>Color:</b>	According to product specification
· <b>Odor:</b>	Characteristic
· <b>Odor threshold:</b>	Not determined.
· <b>pH-value:</b>	Not determined.
· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	101 °C
· <b>Flash point:</b>	10 °C
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	245 °C
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits</b>	
<b>Lower:</b>	0.8 Vol %
<b>Upper:</b>	12.5 Vol %
· <b>Vapor pressure at 20 °C:</b>	47 hPa
· <b>Density at 20 °C:</b>	1.23 g/cm <sup>3</sup>
· <b>Relative density:</b>	Not determined.
· <b>Vapor density:</b>	Not determined.
· <b>Evaporation rate:</b>	Not determined.
· <b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic at 20 °C:</b>	10338 mPas
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>VOC content:</b>	32 g/l
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **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.

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- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects:**
- **Acute toxicity**
- **Specific symptoms in biological assay:** No further relevant information available.
- **Primary irritant effect**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** No 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)**

80-62-6	methyl methacrylate	3
103-11-7	2-ethylhexyl acrylate	3
13463-67-7	Titanium Dioxide	2B
128-37-0	Butylated hydroxytoluene	3
111-76-2	2-butoxyethanol	3

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

## 12 Ecological information

- **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 2 (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.
- **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.

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· **Uncleaned packagings**· **Recommendation:**

Place in a sealed container and label as waste. Place in a safe area, and comply with all federal, state, provincial and local regulations for disposal.

## 14 Transport information

· **UN-Number**

· **DOT, TDG, IMDG, IATA** UN1993

· **UN proper shipping name**

· **DOT** Flammable liquids, n.o.s. (Methyl methacrylate monomer, stabilized)

· **TDG** 1993 Flammable liquids, n.o.s. (Methyl methacrylate monomer, stabilized)

· **IMDG, IATA** FLAMMABLE LIQUID, N.O.S. (METHYL METHACRYLATE MONOMER, 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):** -

· **EMS Number:** F-E, S-E

· **Stowage Category** A

· **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: 60 L

On cargo aircraft only: 220 L

<ul style="list-style-type: none"> <li>· <b>TDG</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	1L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
<ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>	UN 1993 FLAMMABLE LIQUIDS, N.O.S. (METHYL METHACRYLATE MONOMER, 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):**

80-62-6 methyl methacrylate

111-76-2 2-butoxyethanol

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

All ingredients are listed or exempted

- **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.

- **Canadian substance listings**

- **Canadian Domestic Substances List (DSL/NDSL):**

All ingredients are listed.

- **Canadian Ingredient Disclosure list (limit 0.1%):**

None of the ingredients is listed.

- **Canadian Ingredient Disclosure list (limit 1%):**

80-62-6 methyl methacrylate

103-11-7 2-ethylhexyl acrylate

109-16-0 Triethylene glycol dimethacrylate

- **GHS label elements**

GHS label elements

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

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· **Hazard pictograms**



GHS02 GHS07

· **Signal word** Danger

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

methyl methacrylate  
2-ethylhexyl acrylate

· **Hazard statements**

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P370+P378 In case of fire: Use for extinction: CO<sub>2</sub>, sand, extinguishing powder.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

## 16 Other information

**Date Prepared:** 7/30/2015

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