
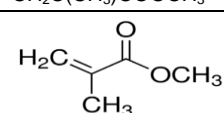


<b>SAFETY DATA SHEET</b>		PR/EOHD/OHS/F-310	 بترو رابغ Petro Rabigh
<b>PRODUCT NAME : METHYL METHACRYLATE</b>			
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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product Identifier	
<b>Product Name:</b>	Methyl Methacrylate
<b>Other/Generic Names:</b>	Methyl methacrylate (MMA); Acrylic molding thermoplastic resin
<b>REACH Registration Number:</b>	01-2119452498-28-xxxx
<b>EC Number:</b>	201-297-1
<b>CAS Number:</b>	80-62-6
<b>Index No.</b>	607-035-00-6
<b>Molecular formula:</b>	CH <sub>2</sub> C(CH <sub>3</sub> )COOCH <sub>3</sub>
<b>Molecular Structure:</b>	
<b>Molecular weight range:</b>	Not provided

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

<b>IDENTIFIED USES:</b>
Final product Manufacturing of objects
<b>MOST COMMON TECHNICAL FUNCTION OF SUBSTANCE (WHAT IT DOES):</b>
Automotive application; stationary suppliers, home appliances, IT related materials, piping, etc.
<b>USES BY CONSUMERS ADVISED AGAINST</b>
Final product.


## 1.3 Manufacturer or supplier's details

<b>Manufacturer</b>	Rabigh Refining and Petrochemical Company		
<b>Address</b>	<b>PLANT</b> PO Box 101, Rabigh 21911, Kingdom of Saudi Arabia  Tel: +966 12 425 0390 Free Number: 800 440 9000		
<b>E-mail address of person responsible for this SDS</b>	<a href="mailto:stephane.dallaire@petrorabigh.com">stephane.dallaire@petrorabigh.com</a>		
<b>Emergency telephone numbers (24-hour)</b>	Asia Pacific (except China):	CareChem 24 +65 3158 1074	English, Cantonese, Indonesian, Japanese, Korean, Malay, Mandarin, Thai, Vietnamese
	China (Off-land):	CareChem 24 +86 512 8090 3042	English, Mandarin
	US, Canada:	ChemTrec 1-800-424-9300	English
	Outside above area:	+703-527-3887	
	Europe, America, Middle East, Africa (Europe & English Speaking):	CareChem 24 +44 (0) 1235 239 670	English, Albanian, Bulgarian, Czech, Danish, Dutch, Finnish, French, German, Greek, Hungarian, Italian, Lithuanian, Norwegian, Polish, Portuguese, Romanian, Russian, Serb-Croat, Slovak, Spanish, Swedish, Turkish, Ukrainian
Middle East & Africa (Arabic speaking):	CareChem 24 +44 (0) 1235 239 671	English, Arabic, French	

## SECTION 2: Hazards Identification

### 2.1 Classification of the substance or mixture

<b>Product Definition:</b>	
<b>Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]:</b>	H315: Causes skin irritation (Category 2). H317: May cause an allergic skin reaction (Category 1). H318: Causes serious eye damage (Category 2A).

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	H225: Flammable liquids (Category 2). H335: May cause respiratory irritation (Category 1). H360: May damage fertility or the unborn child. STOT: Single exposure; respiratory tract irritation, narcotic effects (Category 3). STOT: Repeated exposure; organ of respiration, central nervous system (Category 1).
<b>Classification according to Directive 67/548/EEC [DSD]:</b>	F Highly flammable Xn Harmful R36/37/38 Irritating to eyes, respiratory system and skin R43 May cause sensitization by skin contact

### 2.2 Label elements

<b>Hazard pictograms (Labelling according Regulation (EC) No 1272/2008):</b>	  
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<b>Signal word:</b>	Danger
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<b>Hazard statements:</b>	H315: Causes skin irritation (Category 2) H317: May cause an allergic skin reaction (Category 1) H318: Causes serious eye damage (Category 2A) H225: Flammable liquids (Category 2) H335: May cause respiratory irritation (Category 1) H360: May damage fertility or the unborn child STOT: Single exposure; respiratory tract irritation, narcotic effects (Category 3) STOT: Repeated exposure; organ of respiration, central nervous system (Category 1)
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<b>Precautionary statements</b> Prevention:	P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P210: Keep away from heat/sparks/open flames/hot surfaces. – No smoking. P233: Keep container tightly closed. P280: Wear protective gloves/eye protection/ face protection. P281: Use personal protective equipment as requested. P240: Ground/Bond container and receiving equipment. P241: Use explosive-proof electrical/ventilating/lighting equipment. P243: Take precautionary measures against static discharge. P241: Use only non-sparking tools. P264: Wash thoroughly after handling. P261: Avoid breathing mist/vapors/spray. P285: In case of inadequate ventilation wear respiratory protection. P272: Contaminated work clothing should not be allowed out of the workplace. P271: Use only outdoors or in a well-ventilated area. P270: Do not eat, drink or smoke when using this product. P273: Avoid release to the environment. Supplemental Hazard information (EU): None
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<b>Special packaging requirements</b>	No data available
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<b>Tactile warning of danger:</b>	No data available
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### 2.3 Other hazards

<b>Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII:</b>	Not applicable
<b>Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII:</b>	Not applicable
<b>Other hazards which do not result in classification:</b>	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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### SECTION 3: Composition/information on ingredients

#### 3.1 Classification of the substance or mixture

Product/ ingredient name	Identifiers	Wt%	Classification		
			Directive 67/548/ECC	Regulation (EC) No. 1272/2008 [CLP/GHS]	Type
Methyl methacrylate	EC: 201-297-1 CAS: 80-62-6	99.8%≤	F: Highly Flammable Xi: Irritant R11: Highly flammable R36/37: Irritating to eyes and respiratory system R43: May cause sensitization by skin contact	H225: Flam. Liq. 2; H315: Skin Irritant (Cat 2) H317: Skin sensitization (Cat 1) STOT SE 3 STOT RE 1	[A]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

#### Type

[A] Constituent; [B] Impurity; [C] Stabilizing additive; Occupational exposure limits, if available, are listed in Section 8.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

<b>Inhalation</b>	Blow nose and gargle. In case of inhalation of gases or fumes from hot molten resin, immediately move the exposed person to fresh air and keep warm and at rest in a position comfortable for breathing, covering his/her body with a blanket or similar. Seek medical attention promptly. If breathing is shallow or has stopped, loosen tight clothing to maintain an open airway, and then provide oxygen or artificial respiration. If the person is breathing and vomiting, turn his/her head to the side. If unconscious, never give anything by mouth and never induce vomiting.
<b>Skin contact</b>	Immediately remove contaminated clothing and shoes. Wash affected skin with running water or lukewarm water. If changes in the appearance of the affected area, for example, development of skin eruptions, are observed, or if skin irritation or pain persists, immediately seek medical attention. In the case of contact with molten material, immediately pour large amounts of water over the affected area without removing the exposed person's clothing to thoroughly cool it. Then remove the clothing, cover with clean gauze, etc. and promptly seek medical attention. Do not forcibly pull away materials or clothing attached to the skin.
<b>Eye contact</b>	Flush with clean water for at least 15 minutes and immediately seek medical attention from an ophthalmologist. When washing the eye, hold the eyelids open using the thumb and index finger to ensure that effective rinsing has occurred behind the eyeball and the eyelid. Remove contact lenses if worn, unless they have adhered to eyes, and continue flushing. Do not allow the exposed person to rub his/her eyes or keep them tightly closed.
<b>Ingestion</b>	Wash mouth out thoroughly with water. Keep the exposed person warm and at rest, covering his/her body with a blanket, etc. Seek medical attention immediately. Provide artificial respiration or oxygen, if necessary. If the person is breathing and vomiting, turn his/her head to the side. If the exposed person is unconscious, never give anything by mouth and never induce vomiting.
<b>Protection of first-aiders</b>	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.


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

##### Potential acute and delayed health effects

<b>Inhalation</b>	Irritation to nasopharyngeal mucosa, burning sensation of airway, dizziness, narcolepsy, headache, nausea, short breath, pain in the throat, unconsciousness, suffocation, and asthmatic symptoms. These symptoms may occur later. Refer to section 2.2.
<b>Skin contact</b>	Irritation, rubefaction (redness of the skin) and chemical wound. The contaminant can be absorbed through skin. Refer to section 2.2.
<b>Eye contact</b>	Serious irritation, rubefaction (redness of the eyes), and chemical wound. Refer to section 2.2.
<b>Ingestion</b>	Ingestion (If swallowed): Vomiting and other symptoms similar to those listed under 'Inhalation'. Refer to section 2.2.

##### Over-exposure signs/symptoms

<b>Eye contact</b>	No specific data available
<b>Inhalation</b>	No specific data available
<b>Skin contact</b>	No specific data available
<b>Ingestion</b>	No specific data available

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<b>4.3 Indication of any immediate medical attention and special treatment needed</b>	
<b>Notes to physician</b>	Treat symptomatically. Contact poison treatment specialist immediately if eyes were exposed to large quantities or large quantities have been ingested or inhaled. Use PPE such as gloves, goggles and masks.
<b>Specific treatments</b>	No specific information

## SECTION 5: Firefighting measures

<b>5.1 Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Powder, foam, AFFF (aqueous film-forming foam), or CO <sub>2</sub> . Minor fire: powder fire-extinguisher, CO <sub>2</sub> or alcohol-resistant foam fire-extinguisher. Major fire: sprinkling of water, water spray, or alcohol-resistant foam fire-extinguisher.
<b>Unsuitable extinguishing media</b>	No data available.
<b>5.2 Special hazards arising from the substance of mixture</b>	
<b>Hazards from the substance or mixture</b>	Fire may produce flammable and/or harmful gases. (See "10. Stability and reactivity".) Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. May be ignited by friction, heat, sparks and flames.
<b>Hazardous thermal decomposition products</b>	When heated, decomposition gases may form explosive mixtures with air. Contact with molten substance may cause severe burns to skin and eyes.
<b>5.3 Advice for firefighters</b>	
<b>Special protective actions for fire-fighting</b>	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
<b>Specific protective equipment for fire-fighting</b>	Prevent supply of combustibles, and use proper extinguishing media. Extinguish fire from its windward side as much as possible. Use unattended hose holder and the nosepiece with monitor at the location that is most apart from fire but effective to distinguish it. Keep people away from around fire except for authorized personnel. Wear protective equipment for breathing, since toxic gas such as CO may be produced by combustion or high temperature. If fire is overwhelming and this does not work, sprinkle water against it. When there occurs fire around the container, move it to a safe location, if not dangerous to do so. If the container cannot be moved, pour water over it to cool it down. Pour plenty of water even after the fire has been extinguished, to cool down the container adequately. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. Keep upwind.

## SECTION 6: Accidental release measure

<b>6.1 Personal precautions, protective equipment and emergency procedures</b>	
<b>For non-emergency personnel</b>	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapors and mist.
<b>For emergency responders</b>	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. For indoor release, provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. Remove ignitable material in the surrounding quickly. Make extinguishers and extinguishing media ready to prepare for potential fire.
<b>6.2 Environmental precautions</b>	
Avoid dispersal of spilled material and of entry into waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).	
<b>6.3 Methods and materials for containment and cleaning up</b>	
<b>Small spill</b>	Stop leak if without risk. Move containers from spill area. Mop up and place in an appropriate and properly labeled waste disposal container. Dispose of via a licensed waste disposal contractor.
<b>Large spill</b>	Stop leak if without risk. Remove all sources of ignition. Ensure adequate ventilation. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wet down with water and dike. Contain collected material in dry and clean containers for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.
<b>6.4 Reference to other sections</b>	
See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.	

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## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

<b>Protective measures</b>	Use appropriate personal protective equipment (see Section 8). Do not breathe vapors or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Ensure all equipment is electrically grounded before beginning transfer operations. Empty containers retain product residue and can be hazardous. Do not reuse containers. All containers shall be properly labeled.
<b>Advice on general occupational hygiene</b>	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

Avoid direct sunlight, and keep at a dark cool place below 30°C. Seal the container to avoid contamination by a foreign substance, and keep it at a place with adequate airflow. Walls, pillars and floor of the storage should be fireproof, and its beams should be made of noncombustible material. Its roof should be slated with light noncombustible material such as metal plates, and there should be no ceiling. Its floor should be waterproof or impermeable, and it should have proper slope and trough to collect contaminated water.

Provide natural/artificial lighting and ventilation devices required for storage and handling of the product. Maintain oxygen concentrations at around 6 to 7%. There should be no flammable in the surrounding. Keep away from fire and heat source. No smoking. Keep away from substances that may pose danger when mixed with the product.

### 7.3 Specific end use(s)

<b>Recommendations</b>	No specific information is available.
<b>Industrial sector specific solutions</b>	No specific information is available.

## SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 8.1 Control parameters

#### Occupational exposure limits

Substance	Form	TLV-TWA (ACGIH)	TLV-STEL (ACGIH)	Reference
Methyl methacrylate	Vapor/mist	50 ppm	100 ppm	-

#### Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

**Derived No Effect Levels (DNEL):** No information is available

Product/ingredient name	Exposure	Value	Population	Effects
Methyl methacrylate	No data available	-	-	-

**Predicted No Effect Concentrations (PNEC):** No information is available


Product/ingredient name	Compartment Details	Value	Method Detail
Methyl methacrylate	No data available	-	-

### 8.2 Exposure controls

<b>Appropriate engineering controls</b>	If user operations generate dust, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
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#### Individual protection measures


<b>Hygiene measures:</b>	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to
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	remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Eye/face protection:</b>	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mist, gases or dusts. Recommended: safety glasses with side-shields
<b>Skin protection</b>	
<b>Hand protection:</b>	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this are necessary. For 8-hour full or splash contact with the material, use gloves made of butyl rubber with minimum layer thickness of 0.3 mm.
<b>Body protection:</b>	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
<b>Other skin protection:</b>	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. If used in solution, or mixed with other substances, contact suppliers of approved gloves and skin protection. This is only advisory and must be evaluated on a case-to- case basis by specialists.
<b>Respiratory protection:</b>	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary or as backup to engineering controls. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: organic vapor filter (Type A)
<b>Environmental exposure controls:</b>	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties


9.1 Information on basic physical and chemical properties	
<b>Appearance</b>	
<b>Physical state:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Sharp odor
<b>Odor threshold :</b>	Not applicable
<b>pH:</b>	4.4 as a saturated solution in water
<b>Melting point/freezing point range:</b>	-50.0 °C
<b>Boiling point:</b>	101.0 °C
<b>Flash point:</b>	10.0 °C (O.C.)s
<b>Evaporation rate (Butyl acetate=1.0):</b>	Not applicable
<b>Flammability (solid, gas):</b>	No data available
<b>Burning time:</b>	No data available
<b>Burning rate:</b>	No data available
<b>Upper/lower flammability or explosive limits:</b>	Lower: 1.7% Upper: 12.5%
<b>Vapor Pressure:</b>	3.7 kPa (20 °C)
<b>Vapor Specific Gravity (Air=1):</b>	3.45 (air=1.0)
<b>Specific gravity (water =1.0)</b>	0.936 (20/4)
<b>Solubility(ies):</b>	1.5 grams in 100 grams water. Soluble in most organic solvents. Less soluble in ethylene glycol or glycerol
<b>Partition coefficient; n-octane/water:</b>	Log Pow = 1.38
<b>Auto-ignition temperature:</b>	Spontaneous ignition point: 430 °C
<b>Decomposition temperature:</b>	80.3 °C (in air) or 81.5 °C (in N2), measured by ARC (accelerating rate calorimeter).
<b>Viscosity:</b>	No data available
<b>Explosive properties:</b>	No data available
<b>Oxidizing properties:</b>	No data available

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<b>9.2 Other information</b>
None

<b>SECTION 10: Stability and reactivity</b>
<b>10.1 Reactivity</b>
No specific test data related to reactivity available for this product.
<b>10.2 Chemical stability</b>
Inherent self-polymerization occurs and can be accelerated by elevated temperatures and light. Add polymerization inhibitors (hydroquinone, hydroquinone monomethyl ether, and so on) for long-term storage. Methacrylic acid is produced by hydrolysis.
<b>10.3 Possibility of hazardous reactions</b>
No data available.
<b>10.4 Conditions to avoid</b>
High temperatures, light and humidity.
<b>10.5. Incompatible materials</b>
Polymerizing catalysts such as organic peroxides and azobis(isobutyronitrile), oxidizers, peroxides, strong acids, and strong bases.
<b>10.6 Hazardous decomposition products</b>
Under normal conditions of storage and use, hazardous decomposition products should not be produced. Carbon monoxide is generated by thermal decomposition.

<b>SECTION 11: Toxicological information</b>				
<b>11.1 Information on toxicological effects</b>				
<b>Acute Toxicity:</b>	<b>Product/ingredient name</b>	<b>Result</b>	<b>Species</b>	<b>Dose</b>
<b>Oral</b>	Methyl methacrylate	LD50	Rat	8,400 - 9,400 mg/kg
<b>Dermal</b>	Methyl methacrylate	LD50	Rabbit	>9400 mg/kg
<b>Inhalation</b>	Methyl methacrylate	LC50 (Vapor)	Rat	3,570-7093 ppm (4H)
<b>Irritation/Skin Corrosivity:</b>	Methyl methacrylate	Moderate skin irritation was observed in rabbits. On humans, contact dermatitis associated with papules and vesicles through occupational exposure develops.		
<b>Irritation/Eye Corrosivity:</b>	Methyl methacrylate	Moderate skin irritation was observed in rabbit eyes by 5% of this solution. No effects on iris and cornea. In a conjunctival edema, redness of grade 2 was observed after 24 hours.		
<b>Sensitization (Respiratory):</b>	Methyl methacrylate	Substance in Group 2 of respiratory tract sensitization defined by the Japan Society for Occupational Health.		
<b>Sensitization (Skin):</b>	Methyl methacrylate	Substance in Group 2 of skin sensitization defined by the Japan Society for Occupational Health. Maximization test in guinea pigs: Positive (5% aqueous solution).		
<b>Mutagenicity:</b>	Methyl methacrylate	Ames test: Negative, In vivo heritable germ cell mutagenicity test (dominant lethal test): Negative, In vivo germ cell mutagenicity test: Negative.		
<b>Carcinogenicity:</b>	Methyl methacrylate	IARC: Group 3, ACGIH: A4, EPA:E.		
<b>Reproductive toxicity (Teratogenicity):</b>	Methyl methacrylate	Inhalation (Rat) Teratogenicity test (Animals from days 6 to 15 of pregnancy): No teratogenicity. When a dose at which maternal toxicity (death, body weight loss, etc.) develops was given, fetal toxicity (early fetal death, decrease of crown rump length, development of hematoma) was observed. Inhalation (Mouse) Teratogenicity test (Animals from days 6 to 15 of pregnancy): No teratogenicity.		


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<b>Specific target organ toxicity STOT (single exposure):</b>		
	Methyl methacrylate	In an inhalation exposure test with human volunteers, a short-term inhalation exposure experiment (197–1970mg/m <sup>3</sup> , 20–90 minutes) was conducted and results such as "Irritation of eyes and nasal mucosae, dizziness, drowsiness were observed" and "Irritation of respiratory tract, weakness, fever, dizziness, nausea, headache, drowsiness were observed" were reported. It is presumed that methyl methacrylate produces methanol through its metabolic process, and methanol as its metabolite exerts an inhibitory reaction on the central nervous system, and consequently transient anesthetic effects are shown.
<b>Specific target organ toxicity STOT (repeated exposure):</b>		
	Methyl methacrylate	In an epidemiological investigation on people with long-term exposure to this substance, headaches, pain in hands and feet, extreme fatigue, sleep disorder, memory impairment, and irritation were reported. It is reported that effects such as atrophic rhinitis, sore throat, autonomic dysfunction, neurasthenia, headaches, dizziness, nervousness, attention disturbance, and decreased memory are present. Based on the above-mentioned results, target organs are the respiratory tract and the central nervous system, Category 1 (respiratory tract, central nervous system) (Rat) Inhalation exposure test: exposure concentration 0, 25, 100, 400ppm. 6 H/day, 5 days/week, 105 weeks Effects: In animals given not less than 25 ppm of the substance, rhinitis in the epithelial mucosa of the nasal concha was observed. In observation of pathologic specimens, denaturation and atrophy in olfactory epithelia were observed in animals administered 100ppm or 400ppm of substance. The target organ is the respiratory organs, observed within the range of the guidance value.
<b>Aspiration Hazards:</b>	Methyl methacrylate	No data available

## SECTION 12: Ecological information

<b>12.1 Toxicity</b>					
<b>Acute Toxicity:</b> <b>Fish</b>	Methyl methacrylate	LC50 (96 hours)	Fathead Minnow	130-460 ppm	
		LC50 (96 hours)	Bluegill (Lepomis macrochirus)	232–283 ppm (Intermediate value: 257.5ppm)	
		LC50 (96 hours)	Guppy (Poecilia reticulata) LC	368 ppm	
	<b>Crustacea</b>	Methyl methacrylate	EC50 (48 hours)	Daphnia magna	69 mg/L
	<b>Algae</b>	Methyl methacrylate	LC50	Green algae	170 mg/KL
<b>Chronic Toxicity:</b>					
<b>Persistence/Durability:</b>	Methyl methacrylate	Rapidly biodegradable	-	-	
<b>Bioaccumulative potential:</b>	Methyl methacrylate	Log Kow=1.38 BCF=2.3	-	-	
<b>Mobility in soil</b>					
<b>Product/ingredient name</b>	<b>Result</b>				
Methyl methacrylate	No data available				
<b>12.2 Persistence and degradability</b>					
<b>Conclusion/summary:</b>	Readily biodegradable (OECD Test Guideline 301B)				
<b>12.3 Bioaccumulative potential</b>					
<b>Conclusion/summary:</b>	No information available				
<b>12.4 Mobility in soil</b>					
<b>Conclusion/summary:</b>	No data available				




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<b>12.5 Results of PBT and vPvB assessment</b>
Not considered either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative at levels of 0.1% or higher
<b>12.6 Other adverse effects</b>
No known significant effects or critical hazards.

<b>SECTION 13: Disposal considerations</b>	
<i>The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).</i>	
<b>13.1 Waste treatment methods</b>	
<b>Product</b>	
<b>Methods of disposal:</b>	The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.
<b>Hazardous waste:</b>	The classification of the product may meet the criteria for a hazardous waste.
<b>Packaging</b>	
<b>Methods of disposal:</b>	The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
<b>Special precautions:</b>	This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

<b>SECTION 14: Transport information</b>				
	<b>ADR/RID</b>	<b>ADN/ADNR</b>	<b>IMDG</b>	<b>IATA</b>
<b>14.1 UN number</b>	1247	1247	1247	1247
<b>14.2 UN proper shipping name</b>	Methyl Methacrylate, Monomer, Stabilized	Methyl Methacrylate, Monomer, Stabilized	Methyl Methacrylate, Monomer, Stabilized	Methyl Methacrylate, Monomer, Stabilized
<b>14.3 Transport hazard class(es)</b>	3 (Flammable liquids)	3 (Flammable liquids)	3 (Flammable liquids)	3 (Flammable liquids)
<b>14.4 Packing group</b>	II	II	II	II
<b>14.5 Environmental hazards</b>	None	None	None	None
<b>14.6 Special precautions for user</b>	No data available	No data available	No data available	No data available
<b>14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	No data available	No data available	No data available	No data available

<b>SECTION 15: Regulatory information</b>	
<b>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</b>	
<u>EU Regulation (EC) No. 1907/2006 (REACH)</u>	
<u>Annex XIV - List of substances subject to authorization</u>	
<u>Substances of very high concern</u>	
No data available	

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**Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**  
 No data available

**Other EU regulations**

**Europe inventory:** All components are listed or exempted.

**Black List Chemicals:** Not listed

**Priority List Chemicals:** No data available

**Integrated pollution prevention and control list (IPPC) - Air:** No data available

**Integrated pollution prevention and control list (IPPC) - Water:** No data available

**International regulations**

**Chemical Weapons Convention List Schedule I Chemical:** Not listed

**Chemical Weapons Convention List Schedule II Chemicals:** Not listed

**Chemical Weapons Convention List Schedule III Chemicals:** Not listed

**15.2 Chemical Safety Assessment**  
 This product contains substances for which Chemical Safety Assessments are still required.

**SECTION 16: Other information**

**Indicates information that has changed from previously issued version.**

**Abbreviations and acronyms:** None

**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Classification	Justification
Highly flammable	Flash point measurements
Skin irritant	Expert judgement
Skin sensitizer	Expert judgement
STOT SE 3	Expert judgement
STOT RE 1, H372i	Expert judgement
<b>Full text of abbreviated H statements:</b>	Already provided in respective sections
<b>Full text of classifications[CLP/GHS]:</b>	Already provided in respective sections
<b>Full text of abbreviated R phrases:</b>	Already provided in respective sections
<b>Full text of classifications[DSD/DPD]:</b>	Already provided in respective sections
<b>Date of issue/ Date of revision:</b>	01/07/2019
<b>Date of previous issue:</b>	11/07/2018
<b>Version</b>	1.3

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