



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

<b>1.1 Product Identifier</b>			
Product Name:	Poly methyl methacrylate		
Other/Generic Names:	Poly methyl methacrylate, PMMA		
Grades:	EX, MH, EXN, R1504UM, R2009UM, C1507UM		
REACH Registration Number:	Not applicable		
EC Number:	Not provided		
CAS Number:	Not applicable (Mixture)		
Molecular formula:	Not provided		
Molecular Structure:	Not provided		
Molecular weight range:	Not provided		
<b>1.2 Relevant identified uses of the substance or mixture and uses advised against</b>			
<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.			
<b>1.3 Manufacturer or supplier's details</b>			
Manufacturer	Rabigh Refining and Petrochemical Company		
Address	<b>PLANT</b> PO Box 101, Rabigh 21911, Kingdom of Saudi Arabia  Tel: +966 12 425 0390 Free Number: 800 440 9000		
E-mail address of person responsible for this SDS	<a href="mailto:stephane.dallaire@petrorabigh.com">stephane.dallaire@petrorabigh.com</a>		
Emergency telephone numbers (24-hour)	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: Outside above area:	ChemTrec 1-800-424-9300 +703-527-3887	English
	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

<b>2.1 Classification of the substance or mixture</b>	
Product Definition:	Poly methyl methacrylate
Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]:	H316: Causes mild skin irritation H335: May cause respiratory irritation
Classification according to Directive 67/548/EEC [DSD]:	Xi Irritant R36/38 Irritating to respiratory system and skin Irritating to skin


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2.2 Label elements	
<b>Hazard pictograms (Labelling according Regulation (EC) No 1272/2008):</b>	None
<b>Signal word:</b>	None
<b>Hazard statements:</b>	H316: May cause skin irritation H335: May cause respiratory irritation
<b>Precautionary statements</b>	<p><b>Prevention:</b></p> P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking P261: Avoid breathing dust/fume/gas/mist/vapors/spray. P270: Do no eat, drink or smoke when using this product. P280: Wear protective gloves/protective clothing/eye protection/face protection. P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P311: Call a POISON CENTER or doctor/physician.  Supplemental Hazard information (EU): None
<b>Special packaging requirements</b>	
<b>Containers to be fitted with child-resistant fastenings:</b>	Not applicable
<b>Tactile warning of danger:</b>	Not applicable
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.

### SECTION 3: Composition/information on ingredients

#### 3.1 Classification of the substance or mixture

Substance/mixture					
Product / Ingredient name	Identifiers & Chemical Formula	Wt%	Classification		
			Directive 1999/45/EC	Regulation (EC) No. 1272/200 [CLP/GHS]	Type
Alkyl methacrylate/ Alkyl acrylate copolymer	EC: Not provided CAS: 9011-87-4  $[(C_5H_8O_2)_x - (C_4H_6O_2)_y]_z$	≥ 99.1%	Xn: Harmful Xi: Irritant R36/37: Irritating to eyes and respiratory system	H316: Skin Irritant H335: May cause respiratory irritation	[A]
Methyl methacrylate	EC: 201-297-1  CAS: 80-62-6  $CH_2 = C(CH_3)COOCH_3$	< 0.8%	F: Extremely 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), H335: STOT SE 3	[B]

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Methyl acrylate	EC: 202-500-6 CAS: 96-33-3  $\text{CH}_2=\text{CHCOOCH}_3$	< 0.1%	F: Extremely Flammable Xn: Harmful Xi: Irritant R11: Highly flammable R20/21/22: Harmful by inhalation, in contact with skin and if swallowed R36/37/38: Irritating to eyes, respiratory system and skin R43: May cause sensitization by skin contact	H225: Flam. Liq. 2 H315: Skin Irritant (Cat 2) H319: Eye irritation (Cat 2) H317: Skin sensitization (Cat 1) H335: STOT SE 3 H412: Chronic aquatic toxicity (cat 3)	[B]
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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.

<b>SECTION 4: First aid measures</b>	
<b>4.1 Description of first aid measures</b>	
<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.
<b>4.2 Most important symptoms and effects, both acute and delayed</b>	
<b>Potential acute and delayed health effects</b>	
<b>Inhalation</b>	Irritation of nasal and pharyngeal mucosae, burning sensation in the respiratory tract, dizziness, drowsiness, headache, nausea, shortness of breath, sore throat, loss of consciousness, choking, asthmatic symptoms. Symptoms may be delayed. Symptoms may be delayed. Refer to section 2.2
<b>Skin contact</b>	Skin contact: Irritation, redness, pain. Refer to section 2.2
<b>Eye contact</b>	Eye contact: Irritation, redness, pain. Refer to section 2.2
<b>Ingestion</b>	Ingestion (If swallowed): Vomiting and other symptoms similar to those listed under 'Inhalation'.
<b>Over-exposure signs/symptoms</b>	
<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
<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.

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## SECTION 5: Firefighting measures

<b>5.1 Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Alcohol-resistant foam, dry chemical or carbon dioxide (CO <sub>2</sub> ).
<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>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. 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. Move containers from area fire if no risks are involved; otherwise, cool containers with flooding quantities of water until well after the fire is out.


## 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 dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<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. See also the information in "For non-emergency personnel".
<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.	

## 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).

<b>7.1 Precautions for safe handling</b>	
<b>Protective measures</b>	Use appropriate personal protective equipment (see Section 8). Do not breathe vapor 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

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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

Store in accordance with local regulations. Store in original containers protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed, properly grounded and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

### 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	TWA	STEL	Reference
Alkyl methacrylate/ Alkyl acrylate copolymer	Dust	3 mg/m3 (Respirable)	No data available	ACGIH
	Dust	10 mg/m3 (total)	No data available	ACGIH
Methyl methacrylate	Vapor/mist	50 ppm	100 ppm	ACGIH
Methyl acrylate	Vapor/mist	No data provided	No data available	-

#### 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
Alkyl methacrylate/Alkyl acrylate copolymer	No data available	-	-	-
Methyl methacrylate	No data available	-	-	-
Methyl acrylate	No data available	-	-	-

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


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

### 8.2 Exposure controls

**Appropriate engineering controls** 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.

#### 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 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

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<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>	Solid in pellet and bead form
<b>Color:</b>	Transparent, Colorless
<b>Odor:</b>	odorless
<b>Odor threshold :</b>	Not applicable
<b>pH:</b>	Not applicable
<b>Melting point/freezing point range:</b>	No clear melting point. Softening starts higher than 80 °C.
<b>Boiling point:</b>	No data available
<b>Flash point:</b>	Not applicable
<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: Not applicable Upper: Not applicable
<b>Vapor Pressure:</b>	No information available
<b>Vapor Specific Gravity (Air=1):</b>	No data available
<b>Specific gravity (water =1.0)</b>	1.1 – 1.2
<b>Solubility(ies):</b>	Insoluble in water.
<b>Partition coefficient; n-octane/water:</b>	No data available
<b>Auto-ignition temperature:</b>	Ignition point: >400 °C
<b>Decomposition temperature:</b>	No data available
<b>Viscosity:</b>	Not applicable
<b>Explosive properties:</b>	No data available
<b>Oxidizing properties:</b>	No data available

<b>9.2 Other information</b>
None

## SECTION 10: Stability and reactivity


<b>10.1 Reactivity</b>
No specific test data related to reactivity available for this product.
<b>10.2 Chemical stability</b>
The product is stable under recommended storage conditions. When heated, decomposition gases may form explosive mixtures with air.

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<b>10.3 Possibility of hazardous reactions</b>
No data available.
<b>10.4 Conditions to avoid</b>
Keep away from ignition sources, heat, sparks and flame, hot surfaces, accumulation of static electricity.
<b>10.5. Incompatible materials</b>
Oxidizing agents
<b>10.6 Hazardous decomposition products</b>
Under normal conditions of storage and use, hazardous decomposition products should not be produced. Carbon monoxide and hydrocarbons may be generated by heat.


## SECTION 11: Toxicological information

<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>	Alkyl methacrylate/Alkyl acrylate copolymer	Insufficient data	-	-
	Methyl methacrylate	LD50	Rat	8,400 - 9,400 mg/kg
	Methyl acrylate	LD50	Rat	277 mg/kg
<b>Dermal</b>	Alkyl methacrylate/Alkyl acrylate copolymer	Insufficient data	Rat	1,800 mg/kg
	Methyl methacrylate	LD50	Rabbit	>9400 mg/kg
	Methyl acrylate	LD50	Rabbit	1,250 mg/kg
<b>Inhalation</b>	Alkyl methacrylate/Alkyl acrylate copolymer	Insufficient data	Rat	500 mg/kg/day
	Methyl methacrylate	LC50 (Vapor)	Rat	3,570-7093 ppm (4H)
	Methyl acrylate	LC50 (Vapor)	Rat	1.200 ppm
<b>Irritation/Skin Corrosivity:</b>	Alkyl methacrylate/Alkyl acrylate copolymer	Insufficient data		
	Methyl methacrylate	Moderate skin irritation was observed in rabbits. On humans, contact dermatitis associated with papules and vesicles through occupational exposure develops.		
	Methyl acrylate	Necrosis was observed in the primary skin irritation in rabbits.		
<b>Irritation/Eye Corrosivity:</b>	Alkyl methacrylate/Alkyl acrylate copolymer	Insufficient data		
	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.		
	Methyl acrylate	As a result of eye irritation tests in rabbits, 'intense irritation' and 'no recovery from conjunctival disorder is observed (in 7 days)		
<b>Sensitization (Respiratory):</b>	Alkyl methacrylate/Alkyl acrylate copolymer	Insufficient data		
	Methyl methacrylate	Substance in Group 2 of respiratory tract sensitization defined by the Japan Society for Occupational Health.		
	Methyl acrylate	No data available		
<b>Sensitization (Skin):</b>	Alkyl methacrylate/Alkyl acrylate copolymer	Insufficient data		
	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).		
	Methyl acrylate	Classified as "sensitizing chemical substances (which sensitizing properties have been just reported)" in the Guidelines for Prevention of Occupational Allergic Diseases (draft) edited by the Japan Society for Occupational Health and the special committee of the Japanese Society of Occupational and Environmental Allergy. Substance in Group 2 of		

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<b>Mutagenicity:</b>	Alkyl methacrylate/Alkyl acrylate copolymer	Insufficient data
	Methyl methacrylate	Ames test: Negative, In vivo heritable germ cell mutagenicity test (dominant lethal test): Negative, In vivo germ cell mutagenicity test: Negative.
	Methyl acrylate	Heritable germ cell mutagenicity test: Negative, In vivo germ cell mutagenicity test: Negative, In vivo somatic cell mutagenicity test (micronucleus test): Positive (Intraperitoneal injection), In vivo germ cell genotoxicity: Negative
<b>Carcinogenicity:</b>	Alkyl methacrylate/Alkyl acrylate copolymer	IARC: Not listed
	Methyl methacrylate	IARC: Group 3, ACGIH: A4, EPA:E.
	Methyl acrylate	IARC: 3, ACGIH: A4, EPA: D.
<b>Reproductive toxicity (Teratogenicity):</b>	Alkyl methacrylate/Alkyl acrylate copolymer	Insufficient data
	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.
	Methyl acrylate	Insufficient data
<b>Specific target organ toxicity STOT (single exposure):</b>		
	Alkyl methacrylate/Alkyl acrylate copolymer	Insufficient data
	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.
	Methyl acrylate	In humans, this substance causes coma, convulsion, lacrimation and its vapour irritates eyes, respiratory tract, and the skin. Target organ toxicity is irritation of central nervous system, respiratory tract, etc.
<b>Specific target organ toxicity STOT (repeated exposure):</b>		
	Alkyl methacrylate/Alkyl acrylate copolymer	Insufficient data
	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.
	Methyl acrylate	In experimental animals, "atrophy of olfactory epithelia, columnar cell layer deletion associated with piled basal cell hyperplasia, and increase in relative weight of kidney, increase of renal diseases" were observed. Target organs are respiratory organs and kidneys, based on the guidance values classified in Category 1 (respiratory organs),



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<b>Aspiration Hazards:</b>	Alkyl methacrylate/Alkyl acrylate copolymer	Insufficient data
	Methyl methacrylate	No data available
	Methyl acrylate	No data available

## SECTION 12: Ecological information

### 12.1 Toxicity

Acute Toxicity:	Product / Ingredient name	Result	Species	Dose
<b>Fish</b>	Alkyl methacrylate/Alkyl acrylate copolymer	Insufficient data	-	-
	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
	Methyl acrylate	LC50 (96 hours)	Sheepshead Minnow	1.1 mh/L (cat 2)
		LC50 (96 houts)	Medaka (Oryzia Latipes)	1.36 mg/L
<b>Crustacea</b>	Alkyl methacrylate/Alkyl acrylate copolymer	Insufficient data		
	Methyl methacrylate	EC50 (48 hours)	Daphnia magna	69 mg/L
	Methyl acrylate	EC50 (48 hours)	Daphnia magna	2.64 mg/L
<b>Algae</b>	Alkyl methacrylate/Alkyl acrylate copolymer	Insufficient data		
	Methyl methacrylate	LC50	Green algae	170 mg/KL
	Methyl acrylate	LC50	Green algae	6.9 mg/L
<b>Chronic Toxicity:</b> <b>Persistence/Durability:</b>	Alkyl methacrylate/Alkyl acrylate copolymer	Insufficient data	-	-
	Methyl methacrylate	Rapidly biodegradable	-	-
	Methyl acrylate	Insufficient data	-	-
<b>Bioaccumulative potential:</b>	Alkyl methacrylate/Alkyl acrylate copolymer	Insufficient data	-	-
	Methyl methacrylate	Log Kow=1.38 BCF=2.3	-	-
	Methyl acrylate	Log Kow =0.8	-	-

### Mobility in soil

Product/ingredient name	Result
Alkyl methacrylate/Alkyl acrylate copolymer	No data available
Methyl methacrylate	No data available
Methyl acrylate	No data available

### 12.2 Persistence and degradability


<b>Conclusion/summary:</b>	Readily biodegradable (OECD Test Guideline 301B)
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### 12.3 Bioaccumulative potential

<b>Conclusion/summary:</b>	No information available
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### 12.4 Mobility in soil

<b>Conclusion/summary:</b>	No data available
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<b>SAFETY DATA SHEET</b>		PR/EOHD/OHS/F-310	 بترو رابغ Petro Rabigh
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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.

### SECTION 13: Disposal considerations

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).


<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.

### SECTION 14: Transport information

	ADR/RID	ADN/ADNR	IMDG	IATA
14.1 UN number	None	None	None	None
14.2 UN proper shipping name	None	-	-	-
14.3 Transport hazard class(es)	None	None	None	None
14.4 Packing group	None	None	None	None
14.5 Environmental hazards	None	None	None	None
14.6 Special precautions for user	Not available	Not available	Not available	Not available
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	None	None	None	None

### SECTION 15: Regulatory information

<b>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</b>
<b>EU Regulation (EC) No. 1907/2006 (REACH)</b>
<b>Annex XIV - List of substances subject to authorization</b>
<b>Substances of very high concern</b>
Methyl methacrylate and methyl acrylate
<b>Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>
No data available

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<b>Other EU regulations</b>	
<b>Europe inventory:</b>	All components are listed or exempted.
<b>Black List Chemicals:</b>	Not listed
<b>Priority List Chemicals:</b>	No data available
<b>Integrated pollution prevention and control list (IPPC) - Air:</b>	No data available
<b>Integrated pollution prevention and control list (IPPC) - Water:</b>	No data available
<b>International regulations</b>	
<b>Chemical Weapons Convention List Schedule I Chemical:</b>	Not listed
<b>Chemical Weapons Convention List Schedule II Chemicals:</b>	Not listed
<b>Chemical Weapons Convention List Schedule III Chemicals:</b>	Not listed
<b>15.2 Chemical Safety Assessment</b>	
This product contains substances for which Chemical Safety Assessments are still required.	

## SECTION 16: Other information

<b>Indicates information that has changed from previously issued version.</b>	
<b>Abbreviations and acronyms:</b>	None
<b>Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]</b>	
<b>Classification</b>	<b>Justification</b>
Severe eye irritant	Expert judgement
STOT SE 3, H373o	Expert judgment

<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>Revision</b>	1.4
<b>Date of issue/ Date of revision</b>	01/08/2019
<b>Date of previous issue:</b>	09/27/2018

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