

 <b>LGMMA Corporation</b> (555-805) 762-6, Jungheung-dong, Yeosu-si, Jeollanam-do, Republic of Korea Tel : +82-61-805-3810 Fax : +82-61-805-3858	<b>Material Safety Data Sheet</b>	Reg. No.	
		Crea. date	2020-02-25
	( )th	-	
	Product Name : PR700 CAS No. : 51998-22-2	Rev. date	-
	Rev. Item	-	

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### A. Product identifier :

- Product name : PR700
- Substance name : 2-Propenoic acid, 2-methyl-, methyl ester, polymer with butyl 2-propenoate, ethenylbenzene and methyl 2-propenoate
- EC No. : -
- REACH Registration No. : -
- CAS No. : 51998-22-2

### B. Relevant identified uses of the substance or mixture and uses advised against :

- Relevant identified uses : Impact modifier for PMMA
- Uses advised against : Not available

### C. Manufacturer/Supplier/Distributor information :

- Company name : LG MMA Corporation
- Address : 497, Sandanjungang-ro, Yeosu-si, Jeollanam-do South Korea
- Contact Person / Dept. : PMMA 2nd Production Team
- Telephone number : +82-61-805-3979
- FAX : +82-61-805-3988
- Emergency telephone number : +82-61-805-3979

### D. Emergency telephone number :

- EU-wide emergency number : 112
- See section 16.6 for the list of telephone number of National Helpdesks in the European Economic Area.

## 2. HAZARD IDENTIFICATION

### A. Classification of the substance/mixture :

- Classification according to Regulation (EC) No 1272/2008 [CLP] :  
- Not applicable

### B. Label elements :

- Labelling according to Regulation (EC) No 1272/2008 [CLP] :

Hazard Pictogram(s)	Signal word	Hazard statement(s)
Not applicable	Not applicable	Not applicable

- Precautionary statement(s)

Prevention
Not applicable
Response
Not applicable
Storage
Not applicable
Disposal
Not applicable

C. Other hazards :

- Not available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

A. Substances :

Chemical Name	EC No.	CAS No.	REACH registration No.	% [weight]	Classification [1272/2008/EC]
2-Propenoic acid, 2-methyl-, methyl ester, polymer with butyl 2-propenoate, ethenylbenzene and methyl 2-propenoate	-	51998-22-2	-	100	Not classified

B. Mixtures : Not applicable

### 4. FIRST AID MEASURES

A. Description of first aid measures :

General

- No general information.

Inhalation

- When exposed to large amounts of steam and mist, move to fresh air.

- Take specific treatment if needed.

Skin contact

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

- Wash contaminated clothing thoroughly before re-using.

Eye contact

- Do not rub your eyes.

- Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.

Ingestion

- Please be advised by doctor whether induction of vomit is demanded or not.

- Rinse your mouth with water immediately.

B. Most important symptoms and effects, both acute and delayed :

- Not available

C. Indication of any immediate medical attention and special treatment needed :

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.

## 5. FIREFIGHTING MEASURES

### A. Extinguishing media :

- Suitable extinguishing media
  - Dry chemical, carbon dioxide, regular foam extinguishing agent, spray
- Unsuitable extinguishing media
  - Avoid use of water jet for extinguishing

### B. Special hazards arising from the substance or mixture :

- Hazardous combustion products
  - Not available

### C. Advice for firefighters :

- In case of conflagration, use automatic fire sprinkler. Major fire may require withdrawal, allowing the object itself to burn.
- Avoid inhalation of materials or combustion by-products.
- Do not approach the tank surrounded by fire until it is extinguished.
- Use fire fighting procedures suitable for surrounding area.
- Wear appropriate protective equipment.
- Cool containers with water until well after fire is out.
- Keep unauthorized personnel out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.

## 6. ACCIDENTAL RELEASE MEASURES

### A. Personal Precautions, protective equipment and emergency procedures :

- For non-emergency personnel
  - Protective equipment: Wear proper protective equipment.
  - Emergency procedures: Not applicable
  - If required, notify relevant authorities according to all applicable regulations.
- For emergency responders
  - Must work against the wind, let the upwind people to evacuate.
  - Move container to safe area from the leak area.
  - Cool containers by spraying water until fire is completely extinguished.
  - Remove all sources of ignition.
  - Handle the damaged containers or spilled material after wearing appropriate protective equipment.

### B. Environmental precautions :

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.
- Avoid dispersal of spilt material and runoff and contact with waterways, drains and sewers. If large spills, advise emergency services.

### C. Methods and material for containment and cleaning up :

- For containment
  - Clean up all spills immediately.
  - Control personal contact by using protective equipment.
  - Clear area of personnel and move up wind.
  - Prevent, by any means available, spillage from entering drains or water course.
- For cleaning up
  - Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
  - Notify the central and local government if the emission reach the standard threshold.
  - Disposal of waste shall be in compliance with the Wastes Control?Act
  - Appropriate container for disposal of spilled material collected.
  - Small liquid state spills: Appropriate container for disposal of spilled material collected.
  - Put the spilled material in an appropriate containers and clean the contaminated area
- Other information
  - Slippery when spilt.

D. 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 information on disposal.

## 7. HANDLING AND STORAGE

A. Precautions for safe handling :

- Avoid direct physical contact.
- Since emptied containers retain product residue(vapor, liquid, solid) follow all MSDS and label warnings even after container is emptied.
- Comply with all applicable laws and regulations for handling
- Dealing only with a well-ventilated place.
- Get the manual before use.
- Refer to Engineering controls and personal protective equipment.
- Operators should wear antistatic footwear and clothing.

B. Conditions for safe storage, including any incompatibilities :

- Do not apply direct heat.
- Store in accordance with current laws and regulations.
- Do not apply any physical shock to container.
- Please pay attention to incompatibilities materials and conditions to avoid.
- Prevent static electricity and keep away from combustible materials or heat sources.
- Check regularly for leaks.
- Avoid direct sunlight.
- Keep sealed when not in use.

C. Specific end use(s) :

- See Section 1 for information on 1.2 Relevant identified uses.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### A. Control parameters :

#### ○ Occupational exposure limits

- European Union (EU) Commission Directive 2006/15/EC (IOELVs)
  - Not available
- European Union (EU) Commission Directive 2006/15/EC (IOELVs) – Skin
  - Not available
- Greece Occupational Exposure Limits
  - Not available
- Netherlands Occupational Exposure Limits
  - Not available
- Denmark Indicative List of Organic Solvents
  - Not available
- Denmark List of Limit Values for Dust
  - Not available
- Latvia Occupational Exposure Limit Values (OELV) for Chemical Substances in the Work Environment AtmbExcel Air & Hydraulics9
  - Not available
- Latvia Carcinogens and their Occupational Exposure Limit Values (OELV)
  - Not available
- Bulgaria Occupational Exposure Limits
  - Not available
- Bulgaria Limit values for the chemical agents in the air at the working environment
  - Not available
- Sweden Occupational Exposure Limit Values
  - Not available
- Sweden Occupational Exposure Limit Values and Measures against Air Contaminants
  - Not available
- Spain Changes Proposed for Occupational Limit Values
  - Not available
- Spain Occupational Exposure Limit for Chemical Agents
  - Not available
- Slovak Republic Highest Admissible Exposure Limits
  - Not available
- Slovak Republic Highest Admissible Exposure Limits – Solid aerosols predominately with fibrogenic effect
  - Not available
- Slovak Republic Highest Admissible Exposure Limits – Solid aerosols with possible fibrogenic effect
  - Not available
- Slovak Republic Highest Admissible Exposure Limits – Solid aerosols predominately with nonspecific effect

- Not available
- Ireland Occupational Exposure Limits
  - Not available
- UK Workplace Exposure Limits (WELs)
  - Not available
- Austria Technical Exposure Limits (TRK Values)
  - Not available
- Austria Occupational Exposure Limits – Maximum Workplace Concentrations (MAK)
  - Not available
- Italy Occupational Exposure Limits
  - Not available
- Czech Republic Occupational Exposure Limits (PEL and NPK-P)
  - Not available
- Czech Republic Occupational Exposure Limits – Dusts predominately with fibrogenic effect
  - Not available
- Czech Republic Occupational Exposure Limits – Dusts with possible fibrogenic effect
  - Not available
- Czech Republic Occupational Exposure Limits – Dusts predominately with nonspecific effect
  - Not available
- Czech Republic Occupational Exposure Limits – Dusts predominately with irritating effect
  - Not available
- Czech Republic Occupational Exposure Limits – Mineral fibrous dusts
  - Not available
- Poland Workplace Maximum Allowable Concentration – Dust
  - Not available
- Poland Workplace Maximum Allowable Concentration
  - Not available
- France Threshold Limit Values for Occupational Exposure – VLE/VME
  - Not available
- Finland Occupational Exposure Levels – Concentrations Known to be Harmful
  - Not available
- Hungary Occupational Exposure Limits
  - Not available
- Recommended Monitoring Procedures
  - 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.
- DNEL/PNEC – Values :
  - Not available

B. Exposure controls :

- Appropriate engineering controls

- Business owner is recommended to maintain below recommended exposure limits for the working place with general exhaust of gas/vapour/mist/fume.
  - Individual protection measures, such as personal protective equipment
    - Hand protection
      - Wear appropriate glove.
    - Eye protection
      - Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
      - Provide an emergency eye wash station and quick drench shower in the immediate work area.
    - Respiratory Protection
      - Respiratory protection is ranked in order from minimum to maximum.
      - Consider warning properties before use.
      - Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
      - Dust, mist, fume-purifying respiratory protection
        - Air-purifying respirator with high-efficiency particulate filtering
        - Any respiratory protection with a electromotion fan(for dust, mist, fume-purifying)
        - Self-contained breathing apparatus with a corpuscle filter of high efficiency
        - For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full
    - Skin protection
      - Wear appropriate clothing.
- C. Environmental exposure controls :
- Do not let product enter drains. For ecological information refer to section 12.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- A. Appearance(State) : Solid (Pellets)
- B. Appearance(Color) : Colorless
- C. Odor : Not available
- D. Odor threshold : Not available
- E. pH : Not available
- F. Melting point/Freezing point : Not applicable
- G. Initial boiling point and boiling range : Not applicable
- H. Flash point : Not available
- I. Evaporation rate : Not applicable
- J. Flammability(solid, gas) : Not available
- K. Upper/Lower Flammability or explosive limits : Not available
- L. Vapour pressure : Not applicable
- M. Vapour density : Not applicable
- N. Relative density : 1.0 ~ 1.2
- O. Solubility : Not available

P. Partition coefficient of n-octanol/water : Not applicable

Q. Autoignition temperature : 450 ~ 480 °C

R. Decomposition temperature : Not available

S. Viscosity : Not applicable

T. Explosive properties : Not available

U. Oxidising properties : Not available

## 10. STABILITY AND REACTIVITY

A. Reactivity :

- Not available

B. Chemical Stability :

- This material is stable under recommended storage and handling conditions.

C. Possibility of hazardous reactions :

- Hazardous Polymerization will not occur.

D. Conditions to avoid :

- Avoid contact with incompatible materials and condition.
- Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces

E. Incompatible materials :

- Not available

F. Hazardous decomposition products :

- May emit flammable vapour if involved in fire.

## 11. TOXICOLOGICAL INFORMATION

A. Acute toxicity :

- Oral : Not available
- Dermal : Not available
- Inhalation : Not available

B. Skin corrosion/irritation : Not available

C. Serious eye damage/irritation : Not available

D. Respiratory sensitization : Not available

E. Skin sensitization : Not available

F. Germ cell mutagenicity : Not available

G. Carcinogenicity :

- IARC : Not applicable
- OSHA : Not applicable
- ACGIH : Not applicable
- NTP : Not applicable
- EU CLP : Not applicable

H. Reproductive toxicity : Not available

I. Specific target organ toxicity(single exposure) : Not available



J. Specific target organ toxicity(repeated exposure) : Not available

K. Aspiration hazard : Not available

## 12. ECOLOGICAL INFORMATION

A. Ecotoxicity :

- Fish : Not available
- Invertebrate : Not available
- Algae : Not available

B. Persistence and degradability :

- Persistence : Not available
- Degradability : Not available

C. Bioaccumulative potential :

- Bioaccumulation : Not available
- Biodegradability : Not available

D. Mobility in soil : Not available

E. Results of PBT and vPvB assessment : Not available

F. Other adverse effects : Not available

## 13. DISPOSAL CONSIDERATIONS

A. Waste treatment methods :

- Stabilization and minimization treatment by incineration or similar method can be applied, if more than two kinds of designated wastes are in mixture state and it is impractical to separate them
- Oil water separation technology shall be applied as pre-waste treatment if it is applicable
- It shall be treated by incineration
- If you have a trouble in incinerating, reclaim in a landfill based on a management and takes care of wastes designated after smashing, cutting or melting it less than 15cm.
- Anyone with business license number who generates industrial wastes shall treat the waste by him/herself or by entrusting to the legal entities who treat the wastes, recycle the wastes of others or install and operate the waste treatment facilities according to the Wastes Control Act
- Dispose of waste in accordance with all applicable laws and regulations.

## 14. TRANSPORT INFORMATION

A. UN No. :

- UN No. (ADR/RID/ADN) : Not applicable
- UN No. (IMDG CODE/IATA DGR) : Not applicable
- UN No. (ICAO) : Not applicable

B. UN proper shipping name : Not applicable

C. Transport hazard class(es) :

- ADR/RID/ADN Class : Not applicable
- ADR Label No. : Not applicable
- IMDG Class : Not applicable
- ICAO Class/Division : Not applicable

Transport Labels : Not applicable

D. Packing group :

ADR/RID/ADN Packing group : Not applicable

IMDG Packing group : Not applicable

ICAO Packing group : Not available

E. Environmental hazards : Not applicable

F. Special precautions for user :

– Local transport follows in accordance with Dangerous goods Safety Management Law.

– Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.

– EmS FIRE SCHEDULE : Not available

– EmS SPILLAGE SCHEDULE : Not available

– Air transport(IATA): Not subject to IATA regulations.

G. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not applicable

## 15. REGULATORY INFORMATION

A. Safety, health and environmental regulation / legislation specific for the substance or mixture :

Europe regulatory

– REACH Restricted substance under REACH : Not applicable

– REACH Substances subject to authorization under REACH : Not applicable

– REACH SVHC : Not applicable

– Europe PBT : Not applicable

– European Union (EU) Transport of Dangerous Goods by Road – Dangerous Goods List : Not applicable

B. Chemical Safety Assessment : Not conducted

## 16. OTHER INFORMATION

A. Indication of changes :

– The Safety Data Sheet has been reviewed and the data therein were revised and laid out according the requirements of the Commission Regulation (EC) No. 1907/2006

B. Abbreviations and acronyms :

– 1272/2008 CLP : Classification, Labelling and Packaging regulation.

– REACH : Registration, Evaluation and authorisation of chemical substances.

– DNEL : Derive no effects level

– PNEC : Predicted no effect concentration

C. Key literature references and sources for data :

– This Safety Data Sheet was compiled with data and information from the following sources: RTECS, ECOSAR, HSDB, SIDS SIAP, ChemWATCH, CESAR, Chemical DB

D. Classification procedure :

– The mixture classification has been derived based on the classification of the individual components in accordance with the rules set out in Regulation (EC) No 1272/2008 (CLP) as well as the translation tables in Annex VII to the same regulation.

E. Training advice : Not applicable

F. Further information :

- The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.
- This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only.
- It should not therefore be construed as guaranteeing any specific property of the product.
- Contact National Helpdesks, List of Telephone Numbers : AUSTRIA (Vienna Wien) +43 1 515 61 0, BELGIUM (Brussels Bruxelles) +32 070 245 245, BULGARIA (Sofia) +359 2 9888 205, Croatia +385 1 2348 342 CZECH REPUBLIC (Prague Praha) +420 224 919 293 or +420 224 915 402, DENMARK (Copenhagen) 82 12 12 12, ESTONIA (Tallinn) 112, FINLAND (Helsinki) +358 9 471 977, FRANCE (Paris) +33 1 45 42 59 59, GERMANY (Berlin) +49 30 19240, GREECE (Athens Athinai) +30 210 77 93 777, HUNGARY (Budapest) +36 80 201 199, ICELAND (Reykjavik) +354 543 2222 or 112, IRELAND (Dublin) +353 1 8379964 or +353 1 809 2166, ITALY (Rome) +39 06 305 4343, LATVIA (Riga) 112 or +371 6704 2473, LITHUANIA (Vilnius) +370 5 236 20 52 or +370 687 53378, Luxembourg +352 70 245 245, MALTA +356 2122 4071, NETHERLANDS (Bilthoven) +31 30 274 88 88, NORWAY (Oslo) 22 591300, POLAND (Gdansk) +48 58301 65 16 or +48 58 349 2831, PORTUGAL (Lisbon Lisboa) 808 250 143, ROMANIA (Bucharest) +40 21 3183606 SLOVAKIA (Bratislava) +421 2 54 77 4166, SLOVENIA (Ljubljana) + 386 41 650 500, SPAIN +34 91 562 04 20(spanish language) or +34 91 768 98 00(You can request to be served in English), SWEDEN (Stockholm) 112 or +46 10 456 6700 (mon–fri 9.00–17.00), UNITED KINGDOM (London) 112 or 0845 4647 (NHS Direct).