

Product name: **POLYLAC® MABS**

Version 1

Revision Date: June 1, 2015
Print Date: November 30, 2015

Section 1. Identification of the substance/ mixture and of the company/ undertaking

1.1 Product identifier

Product name: **POLYLAC®**

This safety data sheet pertains to the following products: PA-758, PA-758R

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

Relevant identified uses: Mixture used for the production of molded plastic articles

1.3 Details of the supplier of the Safety Data Sheet

Supplier: Chi Mei Corporation
Address: 59-1, San Chia, Jen Te Village
Tainan County
Taiwan R.O.C.
Telephone: +886 6 2663000 Ext. 1347
Email: service@mail.chimei.com.tw

1.3 Emergency telephone number

Emergency telephone : +886 6 2663000 Ext. 2501

Section 2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to Directive 67/548/EEC or 1999/45/EC: Not classified as hazardous (polymeric state)

Classification according to Regulation (EC) N° 1272/2008 (CLP): Not classified as hazardous (polymeric state)

2.2 Label elements

Not labelled as hazardous

2.3 Other hazards

vPvB/PBT assessment: not available

Swallowing may cause gastrointestinal irritation and pain of guts.

Section 3. Composition/information on ingredients

3.1 Composition of the substance/ preparation

Substance or Preparation Substance
Content

| CAS | Name | content |
|-----------------------|---|---------|
| 25213-88-1, 9003-55-8 | Methyl methacrylate-Acrylonitrile-Butadiene-Styrene | > 98 % |
| - | Additives | ≤ 2 % |

Impurities Contributing to Hazard None

Product name: **POLYLAC® MABS**

Version 1

Revision Date: June 1, 2015
Print Date: November 30, 2015

3.2 Additional information: -

Reach Info:

| | Pre-registration No. | Registration No. |
|---------------------|-----------------------|---|
| Acrylonitrile | 05-2117149456-38-0000 | 01-2119474195-34-0045 |
| Styrene | 05-2117149462-45-0000 | 01-2119457861-32-0006 01-2119457861-32-0007 01-2119457861-32-0057 01-2119457861-32-0065 01-2119457861-32-0081 |
| Buta-1,3-diene | 05-2117149467-35-0000 | 01-2119471988-16-0044 |
| Methyl methacrylate | — | 01-2119452498-28-0011 01-2119452498-28-0016 |

3.3 For full text of R- and H-phrases: see section 16

Section 4. First-aid measures

4.1 Description of first aid measures

General notes: Remove affected persons from the danger area, at the same time ensuring your own safety. Remove all contaminated clothing immediately

Following inhalation: In case of gases evolving from melted resin, move subject to fresh air. Treat symptomatically

Following skin contact: In case of pellets or powder, wash with water. In case of smelt, wash affected skin area and clothing with plenty of (soap and) water. Seek medical advice

Following eye contact: In case of pellets or powder, flush with plenty of water for at least 15 minutes. Seek medical advice if any dust particles still remain.

In case of gases evolving from melted resin of high temperature, flush with plenty of water for at least 15 minutes. Seek medical advice if necessary

Following ingestion: Induce vomiting. Rinse mouth with water. Seek medical advice if necessary

4.2 Most important symptoms & effects both acute & delayed

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

4.3 Indication of any immediate medical attention and special treatment needed: -

If burn is present, treat as any thermal burn, after decontamination. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing agents: water spray, dry powder, foam, carbon dioxide
Dry chemical, carbon dioxide, regular foam extinguishing agent, spray

5.2 Special hazards arising from the substance or mixture: -

Product name: **POLYLAC® MABS**

Version 1

Revision Date: June 1, 2015
Print Date: November 30, 2015

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide. Phenolic compounds.

Unusual Fire and Explosion Hazards: Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate. Dense smoke is emitted when burned without sufficient oxygen.

5.3 Advice for firefighters

Fire fighting instructions: Keep people away. Isolate fire area and de unnecessary entry. Cool surroundings with water to localize fire zone. Soak thoroughly with water to cool and prevent re-ignition. Pellets or powder remained on ground may cause slipping.

Protective equipment: Protective fire fighting clothing (including fire fighting helmet, coat, pants, boots, and gloves), positive-pressure self contained breathing apparatus (SCBA).

5.4 Additional information:

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment & emergency procedures

Keep out of irrigation ditches, sewers, and water supplies. Spills should be collected to prevent contamination of waterways. Isolate area. Wear protective equipment. Ensure adequate ventilation. Keep away from ignition sources. Keep unprotected persons away.

6.2 Environmental precautions

Gather pellets and powder thoroughly to avoid birds or fishes taking from draining water. Do not allow product to reach sewage system or water bodies. Inform respective authorities in case product reaches water, sewage system or soil.

6.3 Methods and material for containment and cleaning up

Contain spilled material if possible. Sweep up. Collect in suitable and properly labeled containers.

6.4 Reference to other sections

See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment.

Section 7. Handling and storage

7.1 Precautions for safe handling

Handling Procedures: No smoking, open flames or sources of ignition in handling and storage area. Good housekeeping and controlling of dusts are necessary for safe handling of product. Avoid breathing process fumes. Use with adequate ventilation. When appropriate, unique handling information for containers can be found on the product label. Workers should be protected from the possibility of contact with molten resin. Do not get molten material in eyes, on skin or clothing. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, electrically bond and ground equipment and do not permit dust to accumulate. Dust can be ignited by static discharge.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions: Keep the material at a cool dry place. Protect from direct sunlight, rain and violent temperature fluctuation. Fire is inhibited around storage area.

Product name: **POLYLAC® MABS**

Version 1

Revision Date: June 1, 2015
Print Date: November 30, 2015

7.3 Specific end use(s)

Section 8. Exposure controls/personal protection

8.1 Control parameters

Exposure Limits: Although some of the additives used in this product may have exposure guidelines, these additives are encapsulated in the product and no exposure would be expected under normal handling conditions.

8.2 Exposure control

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Personal protection:

- Respiratory protection: Wear masks for cleaning molding machines
- Hand protection: Heat-insulating gloves when handling molten form
- Eye protection: Wear safety glasses for general purpose. Wear chemical goggles for cleaning molding machines
- Skin and body protection: Gloves necessary for handling melted resin
- Hygiene measures: Wash hands after handling

8.3 Environmental exposure controls

Product related measures to prevent exposure: None specific

Instruction measures to prevent exposure: None specific

Organizational measures to prevent exposure: None specific

Technical measures to prevent exposure: None specific

Environmental exposure controls: Do not allow product to reach sewage system or water bodies

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--|-------------------------------------|
| Appearance | Transparent pellet |
| Odour | Odourless |
| Colour | Transparent |
| Odour threshold | Not determined |
| pH | Not applicable |
| Melting point / freezing point | 100°C |
| Initial boiling point and boiling range | Not applicable |
| Flash point | 404°C |
| Evaporation rate (Butyl Acetate = 1) | Not applicable |
| Flammability (solid, gas) | Not available |
| Upper/lower flammability or explosive limits | Not applicable |
| Vapour pressure | Not applicable |
| Vapour density (air = 1) | Not applicable |
| Relative density (H ₂ O = 1) | about 1.03 - 1.10 g/cm ³ |
| Bulk density | Not determined |
| Solubility in water (by weight) | Insoluble |
| Partition coefficient (n-octanol/water) | Not applicable |
| Auto-ignition temperature | 466°C |
| Decomposition temperature | approx. 320 °C |
| Viscosity | Not applicable |
| Explosive properties | Not explosive |
| Oxidizing properties | Not oxidizing |

Product name: **POLYLAC® MABS**

Version 1

Revision Date: June 1, 2015
Print Date: November 30, 2015

9.2 Other safety information: No test data available

Section 10. Stability and reactivity

10.1 Reactivity: Non-reactive under normal handling and storage conditions

10.2 Chemical stability: Stable under normal handling and storage conditions

10.3 Possible hazardous reaction: Polymerization will not occur.

10.4 Conditions to avoid: Avoid temperatures above 300 °C. Exposure to elevated temperatures can cause product to decompose.

10.5 Incompatible materials: Strong oxidizing agents, Gasoline, aldehydes, ketone

10.6 Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Processing may release fumes and other decomposition products. At temperatures exceeding melt temperatures, polymer fragments can be released. Fumes can be irritating. Decomposition products can include and are not limited to: Combustible gases. In case of fire may be liberated: smoke, acrylonitrile monomer, styrene-monomer, methyl methacrylate monomer, aldehydes and acids (organic), carbon monoxide and carbon dioxide (CO₂), hydrogen cyanide (HCN), nitrogen monoxide (NO).

Section 11. Toxicological information

11.1 Information on toxicological effects

Toxicological effects:

- Acute toxicity (oral): Based on available data, the classification criteria are not met. Mild acute toxicity
- Acute toxicity (dermal): Based on available data, the classification criteria are not met. Mild acute toxicity
- Acute toxicity (inhalative): Based on available data, the classification criteria are not met. Mild acute toxicity
- Skin corrosion/irritation: Lack of data. May cause irritations.
- Eye damage/irritation: Lack of data. May cause irritations.
- Sensitisation to the respiratory tract: Lack of data. The chemical structure does not suggest a specific alert for such an effect.
- Skin sensitisation: Based on available data, the classification criteria are not met. Not sensitizing
- Germ cell mutagenicity/Genotoxicity: Lack of data. The chemical structure does not suggest a specific alert for such an effect.
- Carcinogenicity: Based on available data, the classification criteria are not met.
- Reproductive toxicity: Lack of data. The chemical structure does not suggest a specific alert for such an effect.
- Effects on or via lactation: Lack of data.
- Specific target organ toxicity (single exposure): Lack of data.
- Dusts: Can cause skin, eye and respiratory tract irritation.
- Specific target organ toxicity (repeated exposure): Lack of data.
- Processing, thermal hazards: Vapours: Can cause skin, eye and respiratory tract irritation.

Symptoms

- Dust: Can cause skin, eye and respiratory tract irritation.
- The melted product can cause severe burns.
- Irritating to eyes, respiratory system and skin.
- In case of ingestion: Swallowing may cause gastrointestinal irritation and pain of guts.

Product name: **POLYLAC® MABS**

Version 1

Revision Date: June 1, 2015
Print Date: November 30, 2015

Section 12. Ecological information

12.1 Toxicity

Not expected to be acutely toxic, but material in pellet or bead form may mechanically cause adverse effects if ingested by waterfowl or aquatic life.

12.2 Persistence and degradability

This water-insoluble polymeric solid is expected to be inert in the environment. Surface photodegradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

12.3 Bioaccumulative potential

To avoid bioaccumulation plastics should not be disposed in the sea or in other water environments.

12.4 Mobility in soil

In the terrestrial environment, material is expected to remain in the soil. In the aquatic environment, material will sink and remain in the sediment.

12.5 Results PBT & vPvB assessment

According to the revised Annex XIII of regulation (EC) 1907/2006 and (EC) 253/2011: No information available on the product as such

12.6 Other adverse effects:

General information: Do not allow to enter into ground-water, surface water or drains.

12.7 Additional information: -

Section 13. Disposal considerations

13.1 Waste treatment methods

After containers have been emptied as thoroughly as possible (e.g. by pouring, scraping or draining until "drip-dry"), they can be sent to an appropriate collection point set up within the framework of the existing take-back scheme of the chemical industry. Containers must be recycled in compliance with national legislation and environmental regulations.

The product is suitable for mechanical recycling. After appropriate treatment it can be remelted and reprocessed into new moulded articles. Mechanical recycling is only possible if the material has been selectively retrieved and carefully segregated according to type.

Section 14. Transport information

ADR/RID

14.1 UN number

Not applicable

14.2 UN proper shipping name

Proper Shipping Name: NOT REGULATED

14.3 Transport hazard class(es)

Not applicable

Product name: **POLYLAC ® MABS**

Version 1

Revision Date: June 1, 2015
Print Date: November 30, 2015

14.4 Packing Group

Not applicable

14.5 Environmental hazards

Not considered environmentally hazardous based on available data

14.6 Special precautions for user

Special Provisions: no data available

Hazard identification No: no data available

ADNR / ADN

14.1 UN number

Not applicable

14.2 UN proper shipping name

Proper Shipping Name: NOT REGULATED

14.3 Transport hazard class(es)

Not applicable

14.4 Packing Group

Not applicable

14.5 Environmental hazards

Not considered environmentally hazardous based on available data

14.6 Special precautions for user

No data available

IMDG

14.1 UN number

Not applicable

14.2 UN proper shipping name

Proper Shipping Name: NOT REGULATED

14.3 Transport hazard class(es)

Not applicable

14.4 Packing Group

Not applicable

14.5 Environmental hazards

Not considered environmentally hazardous based on available data

14.6 Special precautions for user

EMS Number: Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

ICAO/IATA

14.1 UN number

Not applicable

14.2 UN proper shipping name

Proper Shipping Name: NOT REGULATED

14.3 Transport hazard class(es)

Not applicable

14.4 Packing Group

Not applicable

14.5 Environmental hazards

Not considered environmentally hazardous based on available data

Product name: **POLYLAC® MABS**

Version 1

Revision Date: June 1, 2015
Print Date: November 30, 2015

14.6 Special precautions for user

no data available

Section 15. Regulatory information

15.1 Safety, health and environmental regulations /legislation specific for the substance or mixture

Authorization and / or restrictions on use: None

Other EU regulations: The following substances are under European Seveso regulation:

| Substance | Seveso category | Other Seveso categories | Seveso concentrations | Categories |
|----------------|-----------------|-------------------------|-----------------------|------------|
| Acrylonitrile | 2 | 9ii 7b | 10 % ≤ C < 20 % | 2 |
| Buta-1,3-diene | 0 | 8 | - | - |
| Styrene | 6 | - | C ≥ 12,5 % | - |

Other national regulations: -

15.2 Chemical Safety Assessment

For this substance a chemical safety assessment is not yet required.

Section 16. Other information

16.1 Indication of changes

Version 1: First issue according to Regulations (EC) 1907/2006 (REACH) and 1272/2008 (CLP)

16.2 Abbreviations and acronyms

| | | | |
|-------|---|--------|--|
| AGS | Ausschuss für Gefahrstoffe | LoW | List of Waste |
| AF | Assessment Factor | MARPOL | MARine POLLution |
| BCF | BioConcentration Factor | MIE | Minimum Ignition Energy |
| CAS | Chemical Abstract Service | N°EC | European Commission number |
| CMR | Carcinogenic, Mutagenic and Reprotoxic | NFPA | National Fire Protection Association |
| CSR | Chemical Safety Report | NIOSH | National Institute of Occupational Safety and Health |
| DFG | German Research Foundation | NOEC | No Observed Effect Concentration |
| DNEL | Derived No Effect Level | NOELR | No Observed Effect Loading Rate |
| EC | European Commission | OECD | Organisation for Economic Co-operation and Development |
| EC50 | Effective Concentration (required to induce a 50% effect) | OEL | Occupational Exposure Limit |
| EEC | European Economic Community | OSHA | Occupational Safety and Health Administration |
| EWC | European Waste Catalogue Code | PBT | Persistent Bioaccumulable Toxique |
| IDLH | Immediately Dangerous to Life or Health | PNEC | Previsible Non Effect Concentration |
| IBC | International Bulk Chemical | QSAR | Quantitative Structure-Activity Relationship |
| Koc | Soil/Water Partition Coefficient | STOT | Specific Target Organ Toxicity |
| Kow | Octanol/Water Partition Coefficient | TCLo | Toxic Concentration Low |
| LC50 | Lethal Concentration 50 | TDLo | Toxic Dose Low |
| LD50 | Lethal Dose 50 | UN | United Nations |
| LEL | Lower Explosive Limit | UVCB | Unknown or Variable Composition Complex Reaction Products, or Biological Materials |
| LL100 | Lethal Loading | vPvB | very Persistent, very Bioaccumulative |
| LOEC | Lowest Observed Effect Concentration | | |

16.3 Key literature references and sources for data

<http://esis.jrc.ec.europa.eu/>

<http://echa.europa.eu/>

<http://gestis-en.itrust.de>

Product name: **POLYLAC® MABS**

Version 1

Revision Date: June 1, 2015
Print Date: November 30, 2015

16.4 Relevant R-phrases and/or H-statements (number and full text):

| | | | |
|------|---|-----------|---|
| H220 | Extremely flammable gas | R10 | Flammable |
| H225 | Highly flammable liquid and vapour | R11 | Highly flammable |
| H226 | Flammable liquid and vapour | R12 | Extremely flammable |
| H301 | Toxic if swallowed | R20 | Harmful by inhalation |
| H311 | Toxic in contact with skin | R23/24/25 | Toxic by inhalation, in contact with skin and if swallowed |
| H315 | Causes skin irritation | | |
| H317 | May cause an allergic skin reaction | R36 | Irritating to eyes |
| H318 | Causes serious eye damage | R37 | Irritating to respiratory system |
| H319 | Causes serious eye irritation | R38 | Irritating to skin |
| H331 | Toxic if inhaled | R40 | Limited evidence of a carcinogenic effect |
| H332 | Harmful if inhaled | R41 | Risk of serious damage to eyes |
| H335 | May cause respiratory irritation | R43 | May cause sensitisation by skin contact |
| H340 | May cause genetic defects | R45 | May cause cancer |
| H350 | May cause cancer | R46 | May cause inheritable genetic damage |
| H351 | Suspected of causing cancer | R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment |
| H400 | Very toxic to aquatic life | | |
| H411 | Toxic to aquatic life with long lasting effects | R51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment |

16.5 Training advice: -

16.6 Further information:

According to the guidance version 2.0 for monomers and polymers from the European Chemicals Agency dated as of April 2012, the classification of the polymer takes into account the classification of all its constituents, such as unreacted monomers. These constituents in fact should be taken into account for classification of the polymer. This means that the same classification methods as for mixture should be applied to polymer substances.

In order to determine a classification for the studies about the water soluble fraction as well as the absorption should be performed on the polymer as such.

To the best of our knowledge and belief, the information contained herein is accurate and obtained from sources believed to be reliable. No representation is made that the information is complete or the material is suitable for all purposes. The final determination as to the suitability of the user's intended use of the material is the sole responsibility of the user. All materials may present unknown hazards even when used in common applications and accordingly, it is the sole responsibility of the user to understand and address all potential hazards, including those identified herein. The information set forth in Sections 11 and 12 reflects data available as of the date hereof. It is anticipated that such data will be updated.