

Product name: **POLYLAC® FR-ABS**

Version 4

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

1.1 Product identifier

Product name: **POLYLAC®**

Article number: PA-765, PA-765A, PA-765B

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: CHIMEI Corporation

Address: No. 398, Sec. 1, Zhongzheng Rd., Rende Dist., Tainan City, 717010, Taiwan

Telephone: +886 6 2663000 Ext. 1347

Email: service@mail.chimei.com.tw

1.4 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

Section 3. Composition/information on ingredients

3.1 Composition of the substance/ preparation

Substance or Preparation Substance
Content

| CAS | Name | content |
|-----------|---|---------|
| 9003-56-9 | Acrylonitrile-Butadiene-Styrene copolymer | > 65 % |
| 79-94-7 | Tetrabromobisphenol A | < 17% |
| 1309-64-4 | Antimony Trioxide | < 5% |

Impurities Contributing to Hazard None

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3.2 Additional information:

Preparation does not contain dangerous substances above limits that need to be mentioned in this section according to applicable legislation.

Reach Info:

| | |
|--|---|
| - | Registration No. |
| Acrylonitrile | 01-2119474195-34-0045 |
| Styrene | 01-2119457861-32-0006 01-2119457861-32-0007 01-2119457861-32-0057 01-2119457861-32-0065 01-2119457861-32-0081 |
| Buta-1,3-diene | 01-2119471988-16-0044 |
| 2,2',6,6'-Tetrabromo-4,4'-isopropylidenediphenol | 01-2119538800-42-0000 |
| Diantimony trioxide | 01-2119475613-35-0025 |

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

Acute effects: None Known

Delayed effects: Suspected of causing cancer

4.3 Indication of any immediate medical attention and special treatment needed

Exposures require specialized first aid with contact and medical follow-up.

Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

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Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing agents: alcohol foam, carbon dioxide, dry chemical, regular foam extinguishing agent, or water spray when fighting fires involving this material.

For safety reasons unsuitable extinguishing agents: High power water jet

5.2 Special hazards arising from the substance or mixture

May Ignite by heat, sparks, flames.

Some of these materials may burn, but none ignite readily.

Non-combustible, substance itself does not burn but may decompose upon heating, then produce corrosive and/or toxic fumes.

Inhalation of materials may be harmful.

5.3 Advice for firefighters

Protective equipment:

Self-contained breathing apparatus

Using unattended water devices in case of large fire and leave alone to burn if you do not imperative.

Further measures:

Avoid inhalation of materials or combustion by-products.

Do not access if the tank on fire.

Use appropriate extinguishing measure suitable for surrounding fire.

Keep containers cool with water spray.

Rescuers should put on appropriate protective gear.

Evacuate area and fight fire from a safe distance.

Substance may be transported in a molten form.

Some may be transported hot.

Dike fire-control water for later disposal; do not scatter the material.

Move containers from fire area if you can do it without risk.

Fire involving Tanks; Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.

Fire involving Tanks; Cool containers with flooding quantities of water until well after fire is out.

Fire involving Tanks; Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.

Fire involving Tanks; Always stay away from tanks engulfed in fire.

Fire involving Tanks; For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

5.4 Additional information: -

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment & emergency procedures

Pellets or powder remained on ground may cause slipping

Wear protective equipment

Ensure adequate ventilation

Keep away from ignition sources

Keep unprotected persons away

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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

Absorb spills with inert material (e.g., dry sand or earth), then place in a chemical waste container.
Absorb the liquid and scrub the area with detergent and water.
Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
Notification to central government, local government. When emissions at least of the standard amount
Dispose of waste in accordance with local regulation.
Appropriate container for disposal of spilled material collected.
Small liquid state spills: Appropriate container for disposal of spilled material collected.
For disposal of spilled material in appropriate containers collected and clear surface.
Spilled material should be treated as a potential risk of waste collected.

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

Protective measures:

Dealing only with a well-ventilated place.

Measures to prevent fire: Prevent from fire around handling area

Measures to prevent aerosol and dust generation: maintain good housekeeping standards to prevent accumulation of dust. To avoid dust explosion resulting from the existence of powder, electrostatics eliminators and grounding should be fixed to such equipment as air transferring pipes, bag filters and hoppers. Use electrically conductive filters for bag filters.

Measures to protect the environment:

Contaminated work clothing should not be allowed out of the workplace.

Since emptied containers retain product residue(vapor, liquid, solid) follow all MSDS and label warnings even after container is emptied.

Advice on general occupational hygiene:

Do not handle until all safety precautions have been read and understood.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Use carefully in handling/storage.

Loosen closure cautiously before opening.

Avoid prolonged or repeated contact with skin.

Do not enter storage area unless adequately ventilated.

Please note that there are materials and conditions to avoid.

Be careful to high temperature.

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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. Do not apply any physical shock to container.

Requirements for storage rooms and vessels:

Keep in the original container.

By specifying a storage area for carcinogenic substances. Store locked up.

Collected them in sealed containers.

Suitable materials and coating: -

Unsuitable materials or coatings: -

Further information on storage conditions:

Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioner, or properly disposed of.

7.3 Specific end use(s)

Recommendations: See the recommended processing condition and technical data sheet on this product for further information.

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

Appropriate engineering controls: Install eyes washer and shower in the place of operation. Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits

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

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Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--|--|
| Appearance | Off-white pellet |
| Odour | faint specific odour |
| Colour | Off-white |
| Odour threshold | None |
| pH | Not applicable |
| Melting point / freezing point | Not applicable |
| Initial boiling point and boiling range | Not applicable |
| Flash point | >400 °C |
| Evaporation rate | Not applicable |
| Flammability (solid, gas) | Not available |
| Upper/lower flammability or explosive limits | 45 g/m ³ (open cup, powder) |
| Vapour pressure | Not applicable |
| Vapour density | Not applicable |
| Relative density (H ₂ O=1) | 1.165 - 1.195 g/cm ³ |
| Bulk density | Not available |
| Solubility(ies) | Not soluble |
| Partition coefficient (n-octanol/water) | Not available |
| Auto-ignition temperature | >400 °C |
| Decomposition temperature | >280 °C |
| Viscosity | Not applicable |
| Explosive properties | Not explosive |
| Oxidizing properties | Not oxidizing |

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:

Hazardous Polymerization will not occur.
Containers may explode if heated..
Easy to burn, but not easy to fire.
Irritating, or toxic gases may occur by fire.
Inhalation of materials may be harmful.
Non-combustible, substance itself does not burn but may decompose upon heating, then produce corrosive and/or toxic fumes

10.4 Conditions to avoid:

Avoid excessive heat, flames and all sources of ignition.
Avoid contact with incompatible materials and condition

10.5 Incompatible materials: Combustible materials, irritating, toxic gases

10.6 Hazardous decomposition products: Not available

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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.
- Acute toxicity (dermal): Based on available data, the classification criteria are not met.
- Acute toxicity (inhalative): Based on available data, the classification criteria are not met.
- Skin corrosion/irritation: No information available
- Eye damage/irritation: No information available
- Sensitisation to the respiratory tract: No information available
- Skin sensitisation: Based on available data, the classification criteria are not met. Not sensitizing
- Germ cell mutagenicity/Genotoxicity: No information available
- Carcinogenicity: No information available
- Reproductive toxicity: Based on available data on the constituents the classification criteria are not met.
- Effects on or via lactation: No information available
- Specific target organ toxicity (single exposure): No information available
- Dusts: Can cause skin, eye and respiratory tract irritation.
- Specific target organ toxicity (repeated exposure): No information available

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.

Section 12. Ecological information

12.1 Toxicity

Short-term aquatic toxicity: Based on available data on the constituents the classification criteria are not met

LC(50)mixture = 5.78 mg/l (additivity and summation method, toxicity information available for 92,5 % of the mixture)

Long-term aquatic toxicity: Based on available data on the constituents the classification criteria are met and the mixture is therefore classified as Aquatic Chronic 1

NOECmixture = 0.0079 mg/l (additivity and summation method, toxicity information available for 78 % of the mixture)

Toxicity to terrestrial plants

Oxicity to terrestrial plants

2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol:

Cucumis sativus

Method according to OECD Guideline 208 (Terrestrial Plants Test: Seedling Emergence and Seedling Growth Test)

Results:

NOEC = 20 mg/kg soil dw

LOEC = 78 mg/kg soil dw

Basis for effect: growth

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12.2 Persistence and degradability

Hydrolysis: No information available

Phototransformation in air: No information available

Biodegradation in water:

2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol:

Method equivalent or according to OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))

Oxygen condition: aerobic

Test system: activated sludge, adapte

Results: no readily biodegradable

12.3 Bioaccumulative potential

2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol:

Pimephales promelas

Method equivalent or similar to EPA OPPTS 850.1730 (Fish Bioconcentration Test)

Results: BCF = ca. 150

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

12.4 Mobility in soil

2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol:

Method: Calculation using PCKOC v1.66

Results: Log Koc = 5.62

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: No information available

Section 13. Disposal considerations

13.1 Waste treatment methods

Product / Packaging disposal: Dispose in accordance with the current local regulations.

Waste codes according to European Waste Catalogue: -

Waste treatment-relevant information: Inadequate incineration may generate toxic gases such as CO, HCN, AN and SM

Sewage disposal-relevant information: -

Other disposal recommendations: -

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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

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)

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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

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:

European Inventory of Existing Commercial Chemical Substances (EINECS)

This product is a polymer according to the definition in Directive 92/32/EEC (7th Amendment to Directive 67/548/EEC) and all of its starting materials and intentional additives are listed in the European Inventory of Existing Commercial Chemical Substances (EINECS) or in compliance with European (EU) chemical inventory requirements.

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) & 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 |
| EWG | 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 |

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| | | | |
|-------|---|------|--|
| 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>

16.4 Training advice: -

16.5 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.