

## MATERIAL SAFETY DATA SHEET (MSDS)

### "TOYOLAC" MABS Resin

Grade Name : "TOYOLAC" 920 555

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#### 1. COMPANY / IDENTIFICATION

##### 1.1 NAME OF MANUFACTURER / SUPPLIER

ADDRESS : 2628 MK.1, SPT., Lorong Perusahann 4, Prai Free Industrial Zone,  
13600 Prai, Penang, Malaysia.

##### 1.2 SAFETY MANAGER

PRODUCTION, TECHNOLOGY

DIVISION : Production Division

MANAGER : Director & Factory Manager

SALES

DIVISION : Sales & Marketing Division

MANAGER : General Manager

##### 1.3 MSDS MANAGER

DEPT. : Technology Centre

MANAGER : Technology Centre Manager

##### 1.4 INFORMATION CENTER (CUSTOMER SERVICE CENTER)

DEPT. : Sales & Marketing Department

ADDRESS : 2628 MK.1, SPT., Lorong Perusahann 4, Prai Free Industrial Zone,  
13600 Prai, Penang, Malaysia.

Tel. No. : +60-4-3988088

Fax.No. : +60-4-3908975, 39977264

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#### 2. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NAME : Methylmethacrylate Acrylonitrile Butadiene Styrene Copolymer

GENERIC NAME : MABS Resin

ABBREVIATION NAME : -

SUBSTANCE (O) MIXTURE ( )

CHEMICAL NAME	COMP (%)	CHEMICAL FORMULA (CONSTITUTIONAL FORMULA, STRUCTURAL FORMULA)	CAS No.	TSCA Status
Methylmethacrylate - Acrylonitrile-Butadiene -Styrene Copolymer	100	$[(C_5H_8O_2)_j - (C_8H_8)_k - (C_3H_3N)_l - (C_4H_6)_m]_n$	9010-94-0	Regd.

### 3. HAZARDS IDENTIFICATION

Summary of most important information on hazards :

None.

Specific danger/hazard :

None.

### 4. FIRST-AID MEASURES

Inhalation : S45-In case of accident or if you feel unwell, seek medical advice immediately (show the label if possible). S63-In case of accident by inhalation: remove casualty to fresh air and keep him/her at rest. If you breathe too much gas and fume from melting resin, remove casualty to fresh air and keep him/her at rest.

Skin contact :

S45-In case of accident or if you feel unwell, seek medical advice immediately (Show the label if possible)

Rinse with water. If you touch the aggregates of the gas from the melting resin, wash the affected area under water using a mild soap.

Eye contact :

Gently rinse the affected eyes with clean water for at least 15 minutes. Arrange for transport to the nearest medical facility for examination and treatment by a physician as soon as possible. Have the victim remove contact lenses if he/her is wearing them and continue rinsing. Do not let the victim rub his eyes.

Ingestion :

S45-In case of accident or if you feel unwell, seek medical advice immediately (show the label if possible).

### 5. FIRE FIGHTING MEASURES

Extinguishing Media :

S43-In case of fire, use water mist, water jet, foam, dry powder, CO<sub>2</sub>.

Specific Hazards with regard to Fire-Fighting Measures :

Toxic gases will form upon combustion : carbon monoxide, nitrogen oxides, carbon dioxide etc. Fires involving this material produce large amounts of sooty smoke.

Specific fire-fighting measures :

Apply water from a safe distance to cool and protect surrounding area. Move container from fire areas if it can be done without risk. Keep personnel removed from an upwind of fire. Evacuate non-essential personnel to safe area.

Protection of fire-fighters :

Firefighters should wear proper protective equipment.

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## 6. ACCIDENTAL RELEASE MEASURES

Measures for Handling Personnel :

None.

Measures for environmental effects :

Do not flush to sewer or waterway.

Measures when handling spilled substances :

Sweep up, place in a bag and hold for waste disposal. Consult an expert on the disposal of recovered material.

Preventive measures for secondary accident :

Shut off all sources of ignition; no flares, smoking or flames in area.

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## 7. HANDLING AND STORAGE

Handling :

Preventive measures :

Exposure control for handling personnel :

S21-When using do not smoke.

Protective measures against fire & explosion :

S33-Take precautionary measures against static charges.

Safety treatments :

Prevent deposition of dust.

Safety Measures/Incompatibility :

S29-Do not flush to sewer or drains. Avoid rough handling or dropping. Do not breathe the gas generated by processing, because it stimulates skin and respiratory organs and it is possible to feel unwell if you breathe in too much gas. Prevent deposition of dust, because the dust is possible to explode by static electricity or electric spark.

Storage :

Incompatible storage condition :

S15-Keep away from heat. Keep away heat and sunlight.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures : Do not use in areas without adequate ventilation.

Adopted value :

Methylmethacrylate-Acrylonitrile-Butadiene-Styrene Copolymer (Japan Association of Industrial Health and Hygiene. Total dust:8mg/m<sup>3</sup>

Methylmethacrylate-Acrylonitrile-Butadiene-Styrene  
dust:10mg/m

Neither Japan Association of Industrial Health and Hyg Copolymer (ACGIH). Total

iene nor ACGHI specifies the  
tolerable concentration of ABS resin dust, but it is believed that the above values are  
reasonable guideline for operation.

Personal protective equipment :

Respiratory protection :

S38-In case of insufficient ventilation, wear suitable respiratory equipment. For most  
conditions,no respiratory protection should be needed, however, in dusty  
atmospheres, use an approved dust respirator.

Hand protection :

S37-Wear suitable gloves.

Eye protection :

Wear protective eyeglasses or chemical safety goggles.

Skin and body protection :

S36-Wear suitable protective clothing.

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## 9. PHYSICAL & CHEMICAL PROPERTIES

Physical properties :

Appearance : pellet-shaped solid.

Color : Colorless.

Odor : None.

pH : None.

Phase change temperature :

Melting point : This product gradually becomes soft over a broad range (between 100-150  
degree C).

Flash point : N.A.

Ignition temperature : about 405 degree C

Explosion :

Explosion limit Upper : N.A.

Explosion limit Lower : 60g/m<sup>3</sup>(particle size<0.2mm)

Density : 1040-1090 kg/m<sup>3</sup>

Solubility :

Solubility in solvent :

Insoluble in water, soluble in organic solvent.

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## 10. STABILITY & REACTIVITY

Stability :

This product is considered a stable material under normal and anticipated storage and handling conditions.

Reactivity :

It has no self-reactivity at the room temperature. Cool the melting resin, because it decomposes and generates gases at high temperature.

Decomposition products :

Toxic fumes of carbon monoxide.

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## 11. TOXICOLOGICAL INFORMATION

Acute toxicity	:	Include 50% Lethal Dose. Oral LD50(Rat) >5g/kg (assumed value)
Effects on skin, eyes and others	:	It has physical stimulation.
Allergenic and/or sensitizing effects	:	None.
Chronic and/or long term toxicity	:	N.A.
Carcinogenic effects	:	N.A.
Mutagenic effects	:	N.A.
Teratogenic effects	:	N.A.
Toxicity for reproduction	:	N.A.
Others	:	N.A.

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## 12. ECOLOGICAL INFORMATION

Bioaccumulation	:	N.A. N.A. Do not dump this product into sewers,
Fish toxicity	:	any ocean or water area in order to prevent
Others	:	marine animals and birds from ingesting.

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## 13. DISPOSAL CONSIDERATION

Dump the waste in accordance to law, rules and regulations.

#### 14. TRANSPORT INFORMATION

International guideline : None. Specific safety measures and conditions on transport : Avoid wetting or rough handling so that the packaging will not be damaged. In case the bags are damaged and the pellets are scattered, pay attention so that no one will slip and fall. All of the materials that spilled shall be rapidly collected.

#### 15. REGULATORY INFORMATION

Other regulatory information : We are not able to check up the regulatory information in regard to the substances in your country or region. Therefore, we request this matter would be filled by your responsibility. Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility. Ensure this matter in compliance with federal requirements and ensure conformity to local regulations. UL94(HB).

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#### 16. OTHER INFORMATION / REFERENCES

This information relates to this specific material. It may not be valid for this material, if used in combination with any other materials or in any process. It is user's responsibility to satisfy him-selves as to the suitability and completeness of this information for his own particular use. The information herein is given in good faith, but no warranty, express or implied, is made. Please consult us for further information. To the best of our knowledge, the information contained herein is accurate. However, we assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of user. All materials may present unknown hazards and should be used in caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It is advised to make their own tests to determine the safety and suitability of each such product or combination for their own purposes.