CREATED 2006/05/31
UPDATED 2006/05/31

# Material Safety Data Sheet

## 1. Chemical Product and Company Identification

Product name : TOYOLAC 910-X01
Name of supplier : TORAY Industries, Inc.
Address :
Nihonbashi Mitsui Tower, 1-1, Nihonbashi-Muromachi 2-chome,Chuo-ku, Tokyo 103-8666, Japan
Sales Department :
TOYOLAC Sales Department
Manager of Sales Department : TOYOLAC General Manager
Telephone number : +81-3-3245-5506
FAX number : +81-3-3245-5507
Emergency phone No. : Chiba Plant
Technical Department :
Quality Assurance Section
Manager of Technical Department : Quality Assurance Section Manager
Phone No. : +81-436-23-0659
Product No.(MSDS No.) : D3E-RA3014-1

## 2. Composition/Information on Ingredients

Chemical name :
Methylmethacrylate-Acrylonitrile-Butadiene-Styrene Copolymer
Synonyms : MABS Resin
Substance/Mixture : Substance

Common chemical name
Methylmethacrylate-Acrylonitrile-Butadiene-Styrene Copolymer
Composition : 100
Chemical formula(Constitutional/Structural formula)
-[(C5H8O2)j-(C8H8)k-(C3H3N)l-(C4H6)m]n-
CAS No. : 9010-94-0
: 6-175,6-189
: none
TSCA : Regd.

## 3. Hazards Identification

Summary of most important information on hazards :
none

Specific dager/hazard :
none

## 4. First-Aid Measures

Inhalation :
S45-In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S63-In case of accident by inhalation: remove casualty to fresh air and keep at rest.
If you breathe the much gas and fume from melting resin, remove casualty to fresh air and keep at rest.
Skin contact :
S45-In case of accident or if you feel unwell, seek medical advice immediately (Show the label where possible.).
Rinse with water. If you touch the agregates 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 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 where possible).

## 5. Fire-Fighting Measures

Extinguishing Media :

S43-In case of fire, use
water mist, water jet, foam, dry powder, CO2,

Specific Hazards with regard to Fire-Fighting Measures :

Toxic gases will form upon combustion of :
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 and upwind of fire.
Evacuate non-essential personnel to safe area.

Protection of fire-fighters :

Firefighters should wear proper protective equipment.

## 6. Accidental Release Measures

Measures for Handling Personnel :

none

Measures for environmental effects :

Do not wash away into shower or waterway.

Measures when handling spilled substances :

Sweep up, place in an 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 flaers, smoking or flames in area.

## 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 discharges.

Safety treatments :

Prevent deposition of dust.

Safety Measures/Incompatibility :

S29-Do not empty into drains.
Avoid rough handling or dropping.
Don't breathe the gas generated by prossecing, because it stimulates skin and respiratory organs and it is possible to feel unwell if you breathe many gas.
Prevent deposition of dust, because ti 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 Control/Personal Protection

Engineering measures :

Do not use in areas without adequate ventilation.

Adopted value :
Methylmethacrylate-Acrylonitrile-Butadiene-Styrene Copolymer(Japan Association of Industrial Health an Total dust:8mg/m3
Methylmethacrylate-Acrylonitrile-Butadiene-Styrene Copolymer(ACGIH) Total dust:10mg/m3
Niether Japan Association of Industrial Health and Hygiene 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.

## 9. Physical and 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)

Flash point : N.A.

Ignition temperature : about 405 degree

Explosion :
Explosion limit Upper : N.A.
Explosion limit Lower : 60g/m3(particle size<0.2mm)

Density : 1040-1090kg/m3

Solubility :
Solubility in solvent :
Insoluble in water. soluble in organic solvent.

## 10.Stability and 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,

## 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.

## 12. Ecological Information

Bioaccumulation :
N.A.
Fish toxicity :
N.A.
Others :
Don't dump into all of the sea and the water area so that birds and marine creatures will not eat it.

## 13. Disposal Consideration

Dump the waste matters following law, rules and regulations.

## 14. Transport Information

International guide line :
none
UN No./Packaging group :
none
Specific safety measures and conditions on transport :
Avoid wetting or rough handling sothat 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 material in compliance with federal requirements and ensure conformity to local regulations.

## 16. Other Information/References

Other information :
The 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 the 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 completenes 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 there are the only hazards which 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 are advised to make their own tests to determinate the safety and suitalility of each such product or combination for their own purposes.