

## Material Safety Data Sheet

### 1. Chemical Product and Company Identification

Product name : TOREFLEX

Name of supplier : TORAY Industries,Inc.

Address :

8-1,Mihama 1-chome,Urayasu-shi,CHIBA, 279-8555 JAPAN

Sales Department :

Graphic Systems Dept.

Telephone number : +81-47-350-6049

FAX number : +81-47-350-6071

Product No.(MSDS No.) : H3E-IT0007-1

### 2. Composition/Information on Ingredients

Chemical name :

Mixture of rubbers, amide resin and acrylic ester monomers

Synonyms : Photosensitive flexo printing plate "TOREFLEX"

Substance/Mixture : Mixture

Common chemical name

Amide resin

Composition : 2

CAS No. : Regd.

TSCA : Regd.

Common chemical name

Rubbers

Composition : 63

CAS No. : Regd.

TSCA : Regd.

Common chemical name

Acrylic ester monomers

Composition : 30

CAS No. : Regd.

TSCA : Regd.

Common chemical name

Plasticizer

Composition : 4

CAS No. : Regd.

TSCA : Regd.

Common chemical name

Photo initiator

Composition : 1

CAS No. : Regd.

TSCA : Regd.

Common chemical name

Dye

Composition : <1

CAS No. : Regd.

TSCA : Regd.

Components contributing to the hazard :

N.A.

## Note :

Plate consisting of Polyester cover film, resin layer and polyester film base.

**3. Hazards Identification**

Summary of most important information on hazards :

R25-Toxic if swallowed.

Adverse human health effects :

R25-Toxic if swallowed.

R36-Irritating to eyes.

R38-Irritating to skin.

Environmental effects :

R52-Harmful to aquatic organisms.

(with washout waste water)

Physical and Chemical hazards :

R10-Flammable(Liquid).

Specific danger/hazard :

N.A.

Major symptom :

Nausea,

Dermatitis,

**4. First-Aid Measures**

Inhalation :

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

Skin contact :

Remove all contaminated clothing, shoes and socks from the affected areas as quickly as possible, cutting them off if necessary. Wash the affected area under tepid running water using a mild soap. If irritation persists, arrange for transport to the nearest medical facility for examination and treatment by a physician as soon as possible.

with washout waste water

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.

with washout waste water

Ingestion :

Rinse mouth with water. Give the person one or two glasses of water, try to get the victim to vomit by having the victim touch the back of their with a finger.

Arrange for transport to the nearest medical facility for examination and treatment by a physician as soon as possible.

with washout waste water

**5. Fire-Fighting Measures**

Extinguishing Media :

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

Specific Hazards with regard to Fire-Fighting Measures :

During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Protection of fire-fighters :

Firefighters should wear proper protective equipment.

**6. Accidental Release Measures**

**Measures for Handling Personnel :**

Wear proper protective equipment.

**Measures when handling spilled substances :**

Sweep up, place in a bag and hold for waste disposal.

**7. Handling and Storage****Handling :****Preventive measures :****Exposure control for handling personnel :**

S24-Avoid contact with skin.

S25- Avoid contact with eyes.

S51-Use only in the well-ventilated areas.

**Safety treatments :**

Good general ventilation should be sufficient for most conditions.

**Safety Measures/Incompatibility :**

Avoid rough handling or dropping.

**Storage :****Recommendation for storage :**

Store in dark and cool place.

**Recommendation on container and packaging materials :**

S49-Keep only in the original container.

**8. Exposure Control/Personal Protection****Engineering measures :**

Do not use in areas without adequate ventilation.

Make available emergency shower and eye wash in the work area.

**Personal protective equipment :****Respiratory protection :**

S38-In case of insufficient ventilation, wear suitable respiratory equipment.

**Hand protection :**

S37-Wear suitable gloves.

**Eye protection :**

Wear protective eyeglasses or chemical safety goggles.

**Skin and body protection :**

S36-Wear suitable protective clothing.

**Safety and Health measures :**

Wash hands before breaks and at the end of work.

**9. Physical and Chemical Properties****Physical properties :**

Appearance : solid

Color : Green/Red

Odor : Irritant odor

pH : Not Surveyed

**Phase change temperature :**

Boiling point : None

Melting point : Not Surveyed

Flash point : Not Surveyed

Ignition temperature : Not Surveyed

Explosion : Not Surveyed

Vapour pressure : Not Surveyed

Vapour density : Not Surveyed

Density : 1.0

**Solubility :**

Solubility in solvent :

water : slightly soluble

**10. Stability and Reactivity****Stability :**

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

Reactivity :

N.A.

Decomposition products :

N.A.

## 11. Toxicological Information

Acute toxicity :

Plasticizer:LD50:2650mg/kg(rat)(oral)

Photo initiator:LD50:>2000mg/kg(rat)(oral)

Rubber:LD50:20mg/kg(rabbits)(oral)

Effects on skin, eyes and others :

Rubber:May cause irritation.

Photo-initiator:May cause irritation.

Acrylic ester monomer:May cause irritation.

Washout waste water:Exposure to washout waste water with 10% concentrated caused no irritation in the

Chronic and/or long term toxicity :

Rubber:Carcinogen

Mutagenic effects :

Rubber:minus(AMES)

## 12. Ecological Information

Fish toxicity :

Rubber:LC50:10000mg/L(Himedakas)

## 13. Disposal Consideration

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber.

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Treat using the best available techniques before discharging into drains or the environment, dispose to an authorized waste collection point.

With washout waste water, treat at appropriate waste water treatment equipment or entrust waste water treatment to

## 14. Transport Information

International guide line :

N.A.

Specific safety measures and conditions on transport :

Refer to the regulations of each country / areas.

Refer to the instruction on the package.

## 15. Regulatory Information

Other regulatory information :

Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.

## 16. Other Information/References

Other information :

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.

References :

The Sigma-Aldrich Library of Chemical Safety Data(1998), Sigma-Aldrich Corporation  
MSDS of raw materials