

HANDLING INFORMATION SHEET

1. PRODUCT & COMPANY IDENTIFICATION

PRODUCT NAME : HIATTACH HR-5104 series
NAME OF MANUFACTURER : Goi Works, Hitachi Chemical Company, Ltd.
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NAME OF SECTION : Advanced Integrated Materials Business Sector
Advanced Film R&D Dept.
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FORM NO. : GIE-E9538-02

To all users:

This product is an 'article' and is not an object that is required to issue SDS by laws/regulations regarding chemical substance.

This handling information sheet offers necessary information for safe handling and the responsible concern for the environment. Please observe the following matters, and use it for securing health and safety and environmental protection measures.

- Compliance to the corresponding laws/regulations in the country where to be used
- Notice to all users including your company and the related companies that will use/handle this product

2. HAZARDS IDENTIFICATION

PHYSICAL AND CHEMICAL HAZARDS : Combustible solids

ADVERSE HUMAN HEALTH EFFECTS :

- In normal operation, this material hardly has harmful influence on human health.
However, it might rarely induce irritation to eyes, skin and mucous membrane.
- Inhalation or ingestion might be harmful to human health

ENVIRONMENTAL EFFECTS : Not available

3. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE/MIXTURE : NOT APPLICABLE (FILM/ARTICLE)

INGREDIENTS AND COMPOSITION : Laminated film consisting of cover film, adhesive film, cohesive layer, and base film

Layer	Chemical Name	Content(wt%)	CAS. No.
Cover film	Polyethylene	—	25038-59-9
	Terephthalate	—	—
Adhesive film	Epoxy Resin A	5-15	Trade Secret
	Epoxy Resin B	10-20	Trade Secret
	Phenol Resin	10-20	Trade Secret
	SiO ₂ Filler	45-55	Trade Secret
	(Meta)Acrylic Copolymer	10-20	Trade Secret
	Acrylic Resin	—	Trade Secret
Cohesive	Acrylic Resin	—	Trade Secret
Base film	Polyolefin	—	Trade Secret

4. FIRST-AID MEASURES

- INHALATION : When you inhale the fragments, get medical attention at once.
- SKIN CONTACT : Wash your skin with soap and a large amount of water.
 When irritation persists, get medical attention at once.
- EYE CONTACT : Wash your eye with a large amount of water.
 When bad feeling or irritation persists, get medical attention at once.
- INGESTION : The residual fragments in your mouth must be washed out at once.
 When you ingest the fragments, get medical attention at once.

5. FIRE-FIGHTING MEASURES

FLAMMABLE PROPERTIES : Flashing point (adhesive film) / ca. 350°C.

EXTINGUISHING MEDIA : Water, carbon dioxide, foam, dry sand or powder

SPECIFIC HAZARDS WITH REGARD TO FIRE-FIGHTING MEASURES :

- Dry chemical powder, carbon dioxide, dry sand and/or water spray should be used for small fires.
- Large fires are best controlled by extinguishing foam.
- Move product from fire areas if it can be done without risk.
- Firefighters should wear proper protective and respiratory equipment.
- Evacuate non-essential personnel into safety area.

HAZARDOUS COMBUSTION PRODUCTS : Carbon monoxide and nitrogen oxides might be formed.

6. ACCIDENTAL RELEASE MEASURES

Personal precaution :

- Use protective gloves.

Method for cleaning up :

- Recover material by sweeping.

Environmental precaution :

- Burn in a chemical incinerator with an afterburner and scrubber.

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Hitachi Chemical Co., Ltd., Goi Works, Advanced Film R&D Dept.

7. HANDLING AND STORAGE

HANDLING :

- Use protective gloves to avoid cut from sharp edges of film or knife.
- Use at the well-ventilated area since it is possibility that volatile compounds are generated at the high temp.
- Use by the machine which eliminate the static electricity.

STORAGE :

- Store in a cool (below 5 °C) and dark place to avoid high temperature and humidity.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

ENGINEERING MEASURES :

- It is recommended to use in the well-ventilated areas.

PERSONAL PROTECTIVE EQUIPMENT :

- Use protective gloves and safety goggles.

9. PHYSICAL/CHEMICAL PROPERTIES

APPEARLANCE : White-color (Adhesive film)

DENSITY : 1.40 (Adhesive film)

SOLUBILITY IN WATER : Insoluble(Adhesive film)

10. STABILITY AND REACTIVITY

STABILITY :

- Stable below 5°C
- Dangerous polymerization does not occur under normal condition.

MATERIALS TO AVOID :

- Adhesive film should not be dissolved with strong acid, strong base, and organic solvents.

HAZARDOUS DECOMPOSITION PRODUCT :

- Decomposition will not occur under normal condition.

HAZARDOUS POLYMERIZATION :

- Dangerous polymerization does not occur under normal condition.

11. TOXICOLOGICAL INFORMATION

Epoxy Resin A ¹⁾

- Acute Toxicity : Oral LD₅₀(rat) > 10000 mg/kg
- Irritation : The substance irritates mildly the skin and the eyes.
- Mutagenicity : No data.

Epoxy Resin B ²⁾

- Acute Toxicity : Oral LD₅₀(rat) >2000 mg/kg
- Irritation : The substance irritates the eyes and the skin.
- Mutagenicity : Mutation might be induced.

- To the best of our knowledge, it is reported that the other materials have no significant toxicity, stimulatory, and mutagenicity.

12. ECOLOGICAL INFORMATION

- No data available

13. DISPOSAL CONSIDERATION

- Burn in a chemical incinerator equipped with an afterburner and scrubber.

14. TRANSPORT INFORMATION

- Keep away from source of ignition.
- Follow all regulation on the transport in your local, state and federal laws and regulations.

15. REGULATORY INFORMATION

- Hitachi Chemical Company is not able to check up the regulatory information in regard to the substances in your county or region, therefore, we request this matter would be filled by your responsibility.

16. OTHER INFORMATION

References:

- 1) Safety Data Sheet (2012), provided by Raw Material Company
- 2) Safety Data Sheet (2010), provided by Raw Material Company

- Although the information herein is given in good faith, no warranty on the described information is made.
- Final determination of suitability of any material is the sole responsibility of the 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 which exist.