

Product Safety and Health Information for Diazo Phototooling Films

TECHNICAL BULLETIN TB-0065

Phototooling Films & Chemicals

This data sheet is a summary of information relating to the composition, handling, and disposal of DuPont printed circuit phototooling films. To the best of our knowledge these products do not cause any health or safety hazards when used as intended.

Information regarding suitable applications of these films, their sensitometric properties, recommended processing conditions, and dimensional stability characteristics are found in the Technical Data Sheet published for each product. If you have additional questions regarding any of these products, please contact your nearest DuPont Electronic Materials office.

Product Identification

This information applies to the following diazo films sold by the DuPont Company into the printed circuit board manufacturing industry:

DuPont™ ImageMaster™ Diazo IMD-XT

DuPont™ ImageMaster™ Diazo IMD-IXT

Product Description

DuPont diazo phototooling films consist of a 7-mil (0.175 mm) plastic (polyester) sheet coated on one side with a thin layer of cellulosic resin. The resin layer contains a mixture of diazo compounds, dye forming compounds, matte particles, and other components added in smaller quantities to provide the desired physical and sensitometric properties.



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Ingredients

| Material | Proportion (Weight%) |
|----------------------------------|----------------------|
| Polyethylene terephthalate (PET) | 89 - 96 |
| Cellulosic resin | 3 - 9 |
| Diazo compounds | 1 - 4 |
| Other | 1 - 4 |

DuPont diazo phototooling films do not contain and are not manufactured with either Class I or Class II Ozone Depleting Substances.

Handling and Storage

Unexposed film should be stored below 25°C (75°F) and below 60% relative humidity. Allowing the film to be exposed to high temperature and/or high humidity for extended periods will result in undesirable changes in photographic speed and/or minimum density. When storing films under refrigerated conditions, be sure the film is sealed to prevent moisture intrusion, and allow the film to return completely to ambient conditions before opening the sealed package. Freezing will not harm the film, provided care is taken to insure the film is returned to ambient temperature for at least 24 hours before opening the package. Optimum size holding is obtained when individual sheets of the film are equilibrated to the ambient conditions in the photolab for six to eight hours prior to use.

Disposal

In many localities, these films may be sent to landfill. Check with local authorities for applicable restrictions before sending any commercial waste to landfill.

Material Safety Data Sheets (MSDS)

Diazo films contain no hazardous components and are considered “articles” under the U.S. OSHA Hazard Communication Regulation and the Canadian Workplace Hazardous Materials Information System (WHMIS) regulations. Under these regulations, an article is “a manufactured item ... which does not release, or otherwise result in exposure to, a hazardous chemical under normal conditions of use.” [29 CFR 1910.1200]. As articles, they are exempt from the reporting requirements of these regulations and the EPA Toxic Substances Control Act (TSCA) [40 CFR 704.5]. Therefore, a Material Safety Data Sheet is not required for any of these products.

Shipping Regulations

Photographic films are non-regulated for shipping purposes.

Flammability

Diazo films are organic materials that are combustible with difficulty. DuPont phototooling films meet the definition of a safety photographic film as specified in ISO 543 and ANSI IT9.6. These standards require that the film will not ignite in less than 10 minutes when heated to 300°C, and it will take at least 45 seconds to burn a piece of film 35 x 300 mm, once ignited.

Complete combustion results in the formation of carbon dioxide and water. Incomplete combustion can generate a few parts per million of a variety of gases. Depending on the conditions, these gases may include acetic acid, carbon monoxide, toluene, acetaldehyde, etc.

For more information on DuPont™ ImageMaster™ or other Printed Circuit Materials, please contact your local representative.

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