

## 1. Identification of the Preparation and Company

Trade Name: **EasyFlo Liquid Plastic Part A**  
Product Codes: EasyFlo 60 A, EasyFlo 95 A, EasyFlo 120 A, EasyFlo Clear A, and EasyFlo 100FR A

Use of Preparation: Part A of two-part liquid polyurethane casting resin

Chemical Name: Methylene bis(phenylisocyanate) and plasticizer

Chemical Class: Isocyanate

Synonym(s): Diphenylmethane diisocyanate, Methylene bis(phenylisocyanate), MDI

CAS Number(s): Mixture: MDI is 101-68-8

EEC Number: Mixture containing 615-005-01-6

Company: Polytek Development Corp.  
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Telephone: 610-559-8620  
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Emergency Telephone: 610-559-8620 (9 am to 5 pm EST)

## 2. Hazards Identification

HAZARD CLASSIFICATION (1999/45/EC): Harmful, Xn

R20 - Harmful by inhalation  
R36/37/38 - Irritating to eyes, respiratory system, and skin  
R42/43 - May cause sensitization by inhalation and skin contact

PRIMARY ROUTE(S) OF ENTRY: Inhalation, ingestion, skin or eye contact

ACUTE SYMPTOMS: Vapor causes irritation of respiratory system. Causes eye and skin irritation.

CHRONIC SYMPTOMS: Long-term exposure to vapor may cause respiratory sensitization.

Repeated contact may cause skin sensitization.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Bronchitis, asthma, and other respiratory complaints

EXPLOSION HAZARD: Reaction with water liberates carbon dioxide. Pressure buildup in a sealed container may cause explosion.



## 3. Composition/Information on Ingredients

<u>Chemical Name</u>	<u>CAS Number/ EINECS Number</u>	<u>% of Product</u>	<u>Hazard Classification</u>
Diphenylmethane diisocyanate, (Polymeric MDI), contains 4,4'-methylenediphenyl diisocyanate	9016-87-6 (Contains 101-68-8/ 202-966-0)	50 - 70	Xn - R20; Xi - R36/37/38, R42/43
Esters of aliphatic acid	Proprietary	25 - 50	None

## 4. First-Aid Measures

EYE CONTACT: Flush with copious amount of water. Remove contact lenses, if present, after the first 5 min., then continue flushing. Seek medical attention.

SKIN CONTACT: Wipe off. Wash with industrial cleanser or soap and warm water. Or, if available, use a polyglycol-based skin cleanser or corn oil: both have been shown to be more effective than soap and water. Discard contaminated items that cannot be decontaminated (i.e., leather watch bands, belts and shoes).

INHALATION: Remove to fresh air. Perform artificial respiration if necessary. Qualified medical personnel may administer oxygen. Seek medical attention. Note to physician: Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms may be delayed. Persons receiving significant exposure should be observed for 24-48 hours for signs of respiratory distress.

INGESTION: Seek medical attention. Do not induce vomiting unless so directed by a medical professional.

## 5. Fire-Fighting Measures

FLASH POINT: > 200 °C (estimated)

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, or water fog or fine spray.

THERMAL DECOMPOSITION PRODUCTS: May include carbon monoxide, carbon dioxide, nitrogen oxides, and hydrogen cyanide.

OTHER INFORMATION: Firefighters wear full-face positive pressure breathing apparatus and full chemical protective suit. Violent steam generation or eruption may occur upon application of water stream to hot product.

## 6. Accidental Release Measures

Clear non-emergency personnel from the area. Avoid contact with sources of ignition. Spill response personnel wear protective clothing to prevent inhalation and eye and skin contact (see Section 8). Contain spill to minimize environmental contamination. Absorb spilled material with an absorbent such as sand or earth. Collect and containerize material. Do not seal containers of spill residue since carbon dioxide is generated upon contact with moisture and dangerous pressure buildup can occur. Decontaminate floor area with a mixture of water, ammonia, and isopropyl alcohol. Clean floor before material reacts with moisture in the air and forms a difficult to remove rubber. Dispose of contaminated materials as hazardous waste in accordance with the Environmental Protection Act of 1990.

## 7. Handling and Storage

HANDLING: Avoid breathing vapor. Use in adequately ventilated area. Avoid contact with eyes, skin and clothing. Do not eat, drink or smoke in work area. Wash hands after handling. See also Section 8 of MSDS.

STORAGE: Store at room temperature in a well-ventilated area. Do not store above 40°C. Store in tightly closed container and protect from atmospheric moisture.

## 8. Exposure Controls/Personal Protection

ENGINEERING CONTROLS: Provide general and/or local exhaust to maintain airborne concentrations below exposure limits.

MAXIMUM AIRBORNE EXPOSURE LIMITS:

UK WEL	8-Hour TWA:	0.02 mg/m <sup>3</sup> (for -NCO, Isocyanates)
UK WEL	15-Min. STEL:	0.07 mg/m <sup>3</sup> (for -NCO, Isocyanates)
ACGIH	TWA	0.005 ppm

PERSONAL PROTECTIVE EQUIPMENT:

RESPIRATORY PROTECTION: In the absence of good ventilation, use a respirator equipped with organic vapor cartridges. Respirators should conform to the Standard EN405 FFA1.

HAND: Chemical protective gloves conforming to prEN374 are recommended.  
 EYES: Eye protection conforming to BS2092 or prEN166 is recommended.  
 SKIN: When handling bulk quantities of this material, chemical protective clothing conforming to BS EN368 is recommended.

## 9. Physical & Chemical Properties

APPEARANCE: Clear yellow liquid  
 ODOUR: Slightly sweet acrid odour  
 pH: Not determined  
 BOILING POINT: Not determined  
 MELTING POINT: Not applicable  
 FLASH POINT: >200 °C (estimated)  
 AUTOFLAMMABILITY: No data available  
 EXPLOSIVE PROPERTIES: Not explosive  
 OXIDISING PROPERTIES: Not an oxidizer  
 VAPOUR PRESSURE: 0.0007 mm Hg @ 20 °C  
 RELATIVE VAPOUR DENSITY (Air=1): >1  
 SPECIFIC GRAVITY: 1.2 @ 25°C  
 SOLUBILITY IN WATER: Insoluble in water, reacts with evolution of CO<sub>2</sub>  
 SOLUBILITY IN SOLVENT: Soluble in alcohols (but avoid since reaction occurs)

## 10. Stability and Reactivity

CHEMICAL STABILITY: Stable under recommended storage conditions.  
 CONDITIONS TO AVOID: Temperatures < 24 °C and >40 °C. Avoid moisture.  
 INCOMPATIBILITIES: Avoid contact with water, acids, bases, alcohols, oxidizers, metal compounds, and amines. Reaction with water generates carbon dioxide, and results in heat and pressure buildup in closed systems.  
 HAZARDOUS DECOMPOSITION PRODUCTS: Depends on temperature, air supply and presence of other materials (potentially isocyanate vapor, carbon monoxide, nitrogen oxides, and traces of hydrogen cyanide).

## 11. Toxicological Information

SKIN: Irritant  
 EYES: Irritant  
 INHALATION: Irritant. Risk of sensitisation.  
 INGESTION: Low oral toxicity, but ingesting large amounts may induce severe gastrointestinal effects.  
 CHRONIC EFFECTS: Repeated or prolonged exposure to isocyanates above exposure limits may cause an allergic sensitisation of the respiratory tract causing an asthma-like response upon re-exposure. Repeated overexposure to isocyanates has been associated with lung damage. Repeated or prolonged dermal contact with this product may cause allergic skin sensitisation in some individuals

## 12. Ecological Information

ECOTOXICITY: No formal data is available; but product should not be allowed to enter water courses based on data available for concentrated isocyanate solutions.

## 13. Disposal Considerations

Dispose according to local and national regulations

## 14. Transport Information

NOT A HAZARDOUS MATERIAL FOR SHIPPING PURPOSES, BASED ON *UNITED NATIONS RECOMMENDATIONS ON THE TRANSPORT OF DANGEROUS GOODS*.  
 UN NUMBER: Not applicable;  
 SHIPPING NAME: Not applicable

## 15. Regulatory Information

HAZARD SYMBOL: Harmful, Xn; Irritant, Xi

RISK PHRASES:

R20 - Harmful by inhalation  
 R36/37/38 - Irritating to eyes, respiratory system, and skin  
 R42/43 - May cause sensitisation by inhalation and skin contact

SAFETY PHRASES:

S24/25 – Avoid contact with the skin and eyes  
 S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice  
 S28 -After contact with skin, wash immediately with water or industrial hand cleaner  
 S38 - In case of insufficient ventilation, wear suitable respiratory equipment  
 S45 - In case of accident or if you feel unwell, seek medical advice immediately (show label where possible)

OTHER PHRASES:

Keep containers tightly closed when not in use  
 Protect from ingress of moisture  
 Contains isocyanates

LABELLING: Hazard determining component(s) for labelling: Diphenylmethane diisocyanate

REACH: Substances in this formulation for which export is >1 tonne/yr to EU were pre-registered with ECHA prior to Dec. 1, 2008.

## 16. Other Information

TRAINING ADVICE: All personnel using/handling this product should be trained in proper chemical handling and the need for and use of control measures including protective equipment.

RECOMMENDED USES AND RESTRICTIONS: This product is intended for industrial use only. Further details of intended applications and guidance relating to technical aspects of use are contained in the relevant Technical Bulletin/Advice sheet.

REVISION INDICATOR: Various minor changes and added EasyFlo 100FR Part A.

DISCLAIMER: The information contained herein has been compiled from data that is, to the best of our knowledge, valid at the date of issue. However, as the conditions under which the product is used are not under our control, the user is responsible to ensure that a risk assessment is undertaken in accordance with current legislation and that all necessary precautions are employed.