

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** Futura-Patch 30052 - Side A

**Other means of identification**

**SKU#** FC32000A

**Recommended use** Not available.

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company name** ITW Engineered Polymers  
**Address** 130 Commerce Drive  
 Montgomeryville, PA 18936  
 United States  
**Telephone** Customer Service 215-855-8450  
**Website** www.itwengineeredpolymers.com  
**E-mail** orders.na@itwep.com  
**Contact person** EHS Department  
**Emergency phone number** CHEMTREC 800-424-9300  
 International 703-527-3887

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards**

Acute toxicity, inhalation	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Sensitization, respiratory	Category 1
Sensitization, skin	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Specific target organ toxicity, repeated exposure	Category 2

**Environmental hazards** Not classified.

**OSHA defined hazards** Not classified.

**Label elements**



**Signal word** Danger

**Hazard statement** Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.

**Precautionary statement**

**Prevention** Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.

<b>Response</b>	If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. If experiencing respiratory symptoms: Call a poison center/doctor. Take off contaminated clothing and wash before reuse.
<b>Storage</b>	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
4,4'-methylenediphenyl Diisocyanate		101-68-8	30 - 60
Polypropylene Glycols		25322-69-4	10 - 30
Methylenediphenyl Diisocyanate (mdi)		26447-40-5	5 - 10
Other components below reportable levels			10 - 30

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Skin contact</b>	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if symptoms occur.
<b>Most important symptoms/effects, acute and delayed</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Coughing. Difficulty in breathing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Powder. Carbon dioxide (CO2).
<b>Unsuitable extinguishing media</b>	Water. Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

### Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

### Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

### Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

### Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
4,4'-methylenediphenyl Diisocyanate (CAS 101-68-8)	Ceiling	0.2 mg/m <sup>3</sup>
		0.02 ppm

#### US. ACGIH Threshold Limit Values

Components	Type	Value
4,4'-methylenediphenyl Diisocyanate (CAS 101-68-8)	TWA	0.005 ppm

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
4,4'-methylenediphenyl Diisocyanate (CAS 101-68-8)	Ceiling	0.2 mg/m <sup>3</sup>
	TWA	0.02 ppm 0.05 mg/m <sup>3</sup> 0.005 ppm

#### US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value	Form
Polypropylene Glycols (CAS 25322-69-4)	TWA	10 mg/m <sup>3</sup>	Aerosol.

### Biological limit values

No biological exposure limits noted for the ingredient(s).

### Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. General ventilation normally adequate. Eye wash facilities and emergency shower must be available when handling this product.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Chemical respirator with organic vapor cartridge and full facepiece.

<b>Skin protection</b>	
<b>Hand protection</b>	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
<b>Other</b>	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
<b>Respiratory protection</b>	Chemical respirator with organic vapor cartridge and full facepiece.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

## 9. Physical and chemical properties

<b>Appearance</b>	Liquid.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Colourless to light yellow.
<b>Odor</b>	Slightly. Fruity.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	597 °F (313.89 °C) @5 mmHg
<b>Flash point</b>	400.0 °F (204.4 °C) Cleveland Open Cup
<b>Evaporation rate</b>	< 1 BuAc
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	> 1
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	9.91 lb/gal
<b>Explosive properties</b>	Not explosive.
<b>Flammability class</b>	Combustible IIIB estimated
<b>Oxidizing properties</b>	Not oxidizing.
<b>Specific gravity</b>	1.19

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.

<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Contact with incompatible materials.
<b>Incompatible materials</b>	Acids. Alcohols.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Harmful if inhaled. May cause damage to organs through prolonged or repeated exposure by inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>Skin contact</b>	Causes skin irritation. May cause an allergic skin reaction.
<b>Eye contact</b>	Causes serious eye irritation.
<b>Ingestion</b>	Expected to be a low ingestion hazard.
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Coughing. Difficulty in breathing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

### Information on toxicological effects

<b>Acute toxicity</b>	Harmful if inhaled. May cause respiratory irritation. May cause an allergic skin reaction.
<b>Skin corrosion/irritation</b>	Causes skin irritation.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.

### Respiratory or skin sensitization

<b>Respiratory sensitization</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>Skin sensitization</b>	May cause an allergic skin reaction.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** Suspected of causing cancer.

### IARC Monographs. Overall Evaluation of Carcinogenicity

4,4'-methylenediphenyl Diisocyanate (CAS 101-68-8) 3 Not classifiable as to carcinogenicity to humans.  
Methylenediphenyl Diisocyanate (mdi) (CAS 26447-40-5) 3 Not classifiable as to carcinogenicity to humans.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

### US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	May cause respiratory irritation.
<b>Specific target organ toxicity - repeated exposure</b>	May cause damage to organs through prolonged or repeated exposure.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

## 12. Ecological information

<b>Ecotoxicity</b>	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulative potential</b>	
<b>Mobility in soil</b>	No data available.
<b>Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport information

<b>DOT</b>	Not regulated as dangerous goods.
<b>IATA</b>	Not regulated as dangerous goods.
<b>IMDG</b>	Not regulated as dangerous goods.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not established.

### 15. Regulatory information

<b>US federal regulations</b>	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.	
<b>TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)</b>	Not regulated.	
<b>TSCA Chemical Action Plans, Chemicals of Concern</b>	4,4'-methylenediphenyl Diisocyanate (CAS 101-68-8)	Methylene Diphenyl Diisocyanate (MDI) And Related Compounds Action Plan [RIN 2070-ZA15]
	Methylenediphenyl Diisocyanate (mdi) (CAS 26447-40-5)	Methylene Diphenyl Diisocyanate (MDI) And Related Compounds Action Plan [RIN 2070-ZA15]
<b>CERCLA Hazardous Substance List (40 CFR 302.4)</b>	4,4'-methylenediphenyl Diisocyanate (CAS 101-68-8)	Listed.
<b>SARA 304 Emergency release notification</b>	Not regulated.	
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>	Not regulated.	
<b>US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration</b>	4,4'-methylenediphenyl Diisocyanate (CAS 101-68-8)	% 1.0
<b>US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance</b>	4,4'-methylenediphenyl Diisocyanate (CAS 101-68-8)	Listed.
<b>Superfund Amendments and Reauthorization Act of 1986 (SARA)</b>		
<b>Hazard categories</b>	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No	
<b>SARA 302 Extremely hazardous substance</b>	Not listed.	
<b>SARA 311/312 Hazardous chemical</b>	No	
<b>SARA 313 (TRI reporting)</b>		
<b>Chemical name</b>	<b>CAS number</b>	<b>% by wt.</b>
4,4'-methylenediphenyl Diisocyanate	101-68-8	30 - 60

## Other federal regulations

### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

4,4'-methylenediphenyl Diisocyanate (CAS 101-68-8)

### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

## US state regulations

### US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

### US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

4,4'-methylenediphenyl Diisocyanate (CAS 101-68-8)

Methylenediphenyl Diisocyanate (mdi) (CAS 26447-40-5)

### US. Massachusetts RTK - Substance List

4,4'-methylenediphenyl Diisocyanate (CAS 101-68-8)

### US. New Jersey Worker and Community Right-to-Know Act

4,4'-methylenediphenyl Diisocyanate (CAS 101-68-8)

Methylenediphenyl Diisocyanate (mdi) (CAS 26447-40-5)

### US. Pennsylvania Worker and Community Right-to-Know Law

4,4'-methylenediphenyl Diisocyanate (CAS 101-68-8)

### US. Rhode Island RTK

4,4'-methylenediphenyl Diisocyanate (CAS 101-68-8)

### US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

#### US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Benzene (CAS 71-43-2)

Listed: February 27, 1987

#### US - California Proposition 65 - CRT: Listed date/Developmental toxin

Benzene (CAS 71-43-2)

Listed: December 26, 1997

Toluene (CAS 108-88-3)

Listed: January 1, 1991

#### US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Benzene (CAS 71-43-2)

Listed: December 26, 1997

## International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

Issue date	08-07-2013
Revision date	07-05-2016
Version #	02

**HMIS® ratings**

Health: 1  
Flammability: 1  
Physical hazard: 1  
Personal protection: B

**NFPA ratings**

Health: 1  
Flammability: 1  
Instability: 1

**Disclaimer**

ITW Engineered Polymers cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

**Revision information**

This document has undergone significant changes and should be reviewed in its entirety.