

# Safety data sheet

## DEGABOND 55 2

Revision date : 2009/06/09  
Version: 1.0

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(30368175/SDS\_GEN\_US/EN)

### 1. Substance/preparation and company identification

Company  
BASF Construction Chemicals  
100 Campus Drive  
Florham Park, NJ 07932

24 Hour Emergency Response Information  
CHEMTREC: 1-800-424-9300  
BASF HOTLINE: 1-800-832-HELP

Chemical family: aromatic isocyanates

### 2. Composition/information on ingredients

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
101-68-8	10.0 - 30.0 %	Diphenylmethane-4,4'-diisocyanate (MDI)
26447-40-5	5.0 - 10.0 %	Methylenediphenyl diisocyanate
9016-87-9	3.0 - 7.0 %	P-MDI

### 3. Hazard identification

#### Emergency overview

CAUTION: CONTAINS DIPHENYLMETHANE DIISOCYANATE (CAS No. 101-68-8). INHALATION OF MDI MISTS OR VAPORS MAY CAUSE RESPIRATORY IRRITATION, BREATHLESSNESS, CHEST DISCOMFORT AND REDUCED PULMONARY FUNCTION. OVEREXPOSURE WELL ABOVE THE PEL MAY RESULT IN BRONCHITIS, BRONCHIAL SPASMS AND PULMONARY EDEMA. LONG-TERM EXPOSURE TO ISOCYANATES HAS BEEN REPORTED TO CAUSE LUNG DAMAGE, INCLUDING REDUCED LUNG FUNCTION WHICH MAY BE PERMANENT. ACUTE OR CHRONIC OVEREXPOSURE TO ISOCYANATES MAY CAUSE SENSITIZATION IN SOME INDIVIDUALS, RESULTING IN ALLERGIC RESPIRATORY REACTIONS INCLUDING WHEEZING, SHORTNESS OF BREATH AND DIFFICULTY BREATHING.

#### Potential health effects

##### **Primary routes of exposure**

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

##### **Acute toxicity:**

*Information on: MDI*

*Of moderate toxicity after short-term inhalation.  
Virtually nontoxic after a single ingestion.  
Virtually nontoxic after a single skin contact.*

##### **Irritation:**

*Information on: MDI*

*Irritating to eyes, respiratory system and skin.*

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### **Sensitization:**

*Information on: MDI*

*The substance may cause sensitization of the respiratory tract.*

*Sensitization after skin contact possible.*

*Studies in animals suggest that dermal exposure may lead to pulmonary sensitization.*

*However, the relevance of this result for humans is unclear.*

### **Repeated dose toxicity:**

*Information on: MDI*

*No other known chronic effects.*

### **Medical conditions aggravated by overexposure:**

The isocyanate component is a respiratory sensitizer. It may cause allergic reaction leading to asthma-like spasms of the bronchial tubes and difficulty in breathing.

Persons with history of respiratory disease or hypersensitivity should not be exposed to this product.

An animal study indicated that MDI may induce respiratory hypersensitivity following dermal exposure.

Medical supervision of all employees who handle or come into contact with isocyanates is recommended.

Preemployment and periodic medical examinations with respiratory function tests (FEV<sub>1</sub>, FVC as a minimum) are suggested.

Persons with asthmatic conditions, chronic bronchitis, other chronic respiratory diseases, recurrent eczema or pulmonary sensitization should be excluded from working with isocyanates. Once a person is diagnosed as having pulmonary sensitization (allergic asthma) to isocyanates, further exposure is not recommended. Contact may aggravate pulmonary disorders.

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## 4. First-aid measures

### **General advice:**

Remove contaminated clothing.

### **If inhaled:**

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary.

Immediate medical attention required.

### **If on skin:**

Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.

### **If in eyes:**

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Immediate medical attention required.

### **If swallowed:**

Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

### **Note to physician**

Hazards:

Symptoms can appear later.

Antidote:

Specific antidotes or neutralizers to isocyanates do not exist.

Treatment:

Treatment should be supportive and based on the judgement of the physician in response to the reaction of the patient.

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## 5. Fire-fighting measures

Flash point: 250 °F (ASTM D3278)

121 °C

Self-ignition temperature: not self-igniting

### **Suitable extinguishing media:**

water, dry extinguishing media, carbon dioxide, foam

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### Hazards during fire-fighting:

nitrous gases, fumes/smoke, isocyanate, vapour

### Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

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## 6. Accidental release measures

### Personal precautions:

Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

### Environmental precautions:

Do not discharge into drains/surface waters/groundwater.

### Cleanup:

Dike spillage.

For small amounts: Absorb isocyanate with suitable absorbent material (see § 40 CFR, sections 260, 264 and 265 for further information). Shovel into open container. Do not make container pressure tight. Move container to a well-ventilated area (outside). Spill area can be decontaminated with the following recommended decontamination solution: Mixture of 90 % water, 8 % concentrated ammonia, 2 % detergent. Add at a 10 to 1 ratio. Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide.

For large amounts: If temporary control of isocyanate vapor is required, a blanket of protein foam or other suitable foam (available from most fire departments) may be placed over the spill. Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal.

For residues: The following measures should be taken for final cleanup: Wash down spill area with decontamination solution. Allow solution to stand for at least 10 minutes.

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## 7. Handling and storage

### Handling

#### General advice:

Mix thoroughly before use. If bulging of drum occurs, transfer to well ventilated area, puncture to relieve pressure, open vent and let stand for 48 hours before resealing.

#### Protection against fire and explosion:

No explosion proofing necessary.

### Storage

#### General advice:

Formation of CO<sub>2</sub> and build up of pressure possible. Keep container tightly closed and in a well-ventilated place. Outage of containers should be filled with dry inert gas at atmospheric pressure to avoid reaction with moisture.

#### Storage incompatibility:

General: Segregate from bases.

#### Storage stability:

Storage temperature: 60 - 80 °F  
Protect against moisture.

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## 8. Exposure controls and personal protection

### Components with workplace control parameters

Diphenylmethane-4,4'-diisocyanate (MDI)	OSHA ACGIH	CLV 0.02 ppm TWA value 0.005 ppm ;
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### Advice on system design:

Provide local exhaust ventilation to maintain recommended P.E.L.

### Personal protective equipment

#### Respiratory protection:

For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions. When atmospheric levels may exceed the occupational exposure limit (PEL or TLV) NIOSH-certified air-purifying respirators equipped with an organic vapor sorbent and particulate filter can be used as long as appropriate precautions and change out schedules are in place.

#### Hand protection:

Chemical resistant protective gloves, Suitable materials, chloroprene rubber (Neoprene), nitrile rubber (Buna N), chlorinated polyethylene, polyvinylchloride (Pylox), butyl rubber, fluoroelastomer (Viton)

#### Eye protection:

Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

#### Body protection:

Suitable materials, saran-coated material

#### General safety and hygiene measures:

Wear protective clothing as necessary to prevent contact. Eye wash fountains and safety showers must be easily accessible. Observe the appropriate PEL value. Wash soiled clothing immediately. Contaminated equipment or clothing should be cleaned after each use or disposed of.

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## 9. Physical and chemical properties

Form:	paste	
Odour:	earthy, musty	
Colour:	tan	
pH value:		not applicable
Boiling range:	> 200 °C	
Vapour pressure:		No data available.
Density:	8.9 lb/USg approx. 1.07 g/cm <sup>3</sup>	( 25 °C)
Vapour density:		Heavier than air.
Partitioning coefficient n-octanol/water (log Pow):		No data available.
Viscosity, dynamic:		No data available.

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## 10. Stability and reactivity

### Conditions to avoid:

Avoid moisture.

### Substances to avoid:

water, alcohols, strong bases, Substances/products that react with isocyanates.

### Hazardous reactions:

The product is chemically stable.

Reacts with water, with formation of carbon dioxide. Risk of bursting. Reacts with alcohols. Reacts with acids. Reacts with alkalis. Reacts with amines. Risk of exothermic reaction. Risk of violent reaction. Risk of polymerization. Contact with certain rubbers and plastics can cause brittleness of the substance/product with subsequent loss in strength.

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**Decomposition products:**

Hazardous decomposition products: carbon monoxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates, gases/vapours

**Corrosion to metals:**

No corrosive effect on metal.

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### 11. Toxicological information

**Carcinogenicity:**

*Information on: MDI*

*Indication of possible carcinogenic effect in animal tests.*

*However, the relevance of this result for humans is unclear.*

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**Developmental toxicity/teratogenicity:**

*Information on: MDI*

*The substance did not cause malformations in animal studies; however, toxicity to development was observed at high doses that were toxic to the parental animals.*

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### 12. Ecological information

*Information on: Diphenylmethane-4,4'-diisocyanate (MDI)*

*Acute and prolonged toxicity to fish:*

*OECD Guideline 203 static*

*zebra fish/LC0 (96 h): > 1,000 mg/l*

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*Information on: Diphenylmethane-4,4'-diisocyanate (MDI)*

*Acute toxicity to aquatic invertebrates:*

*OECD Guideline 202, part 1 static*

*Daphnia magna/EC50 (24 h): > 1,000 mg/l*

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### 13. Disposal considerations

**Waste disposal of substance:**

Incinerate or dispose of in a licensed facility.

Do not discharge substance/product into sewer system.

**Container disposal:**

DRUMS:

Steel drums must be emptied and can be sent to a licensed drum reconditioner for reuse, a scrap metal dealer or an approved landfill. Refer to 40 CFR § 261.7 (residues of hazardous waste in empty containers). Check with reconditioner to determine if decontamination is required. Decontaminate containers prior to disposal. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

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### 14. Transport information

**Land transport**

USDOT

Not classified as a dangerous good under transport regulations

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### Sea transport

IMDG

Not classified as a dangerous good under transport regulations

### Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

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## 15. Regulatory information

### Federal Regulations

#### Registration status:

TSCA, US released / listed

OSHA hazard category: Chronic target organ effects reported, ACGIH TLV established

SARA hazard categories (EPCRA 311/312): Acute, Chronic

#### SARA 313:

##### CAS Number

101-68-8

9016-87-9

##### Chemical name

Diphenylmethane-4,4'-diisocyanate (MDI)

P-MDI

### State regulations

#### State RTK

##### CAS Number

101-68-8

26447-40-5

##### Chemical name

Diphenylmethane-4,4'-diisocyanate (MDI)

Methylenediphenyl diisocyanate

##### State RTK

MA, NJ, PA

NJ

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## 16. Other information

### HMIS III rating

Health: 2 $\frac{+}{-}$  Flammability: 1 Physical hazard: 1

HMIS uses a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates high hazard.

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### Local contact information

BASF Construction Chemicals  
bcc\_prps@basf.com

BASF CORPORATION WILL NOT MAKE ITS PRODUCTS AVAILABLE TO CUSTOMERS FOR USE IN THE MANUFACTURE OF MEDICAL DEVICES WHICH ARE INTENDED FOR PERMANENT IMPLANTATION IN THE HUMAN BODY OR IN PERMANENT CONTACT WITH INTERNAL BODILY TISSUES OR FLUIDS.  
END OF DATA SHEET