

# Safety data sheet

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BASF Safety data sheet

Date / Revised: 25.02.2010

Product: **MASTERTOP TC 465,PART B**

Version: 2.0

(30351543/SDS\_GEN\_SG/EN)

Date of print 27.04.2010

## 1. Substance/preparation and company identification

### **MASTERTOP TC 465,PART B**

Use: Product for construction chemicals

#### Company:

BASF South East Asia Pte Ltd.  
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#35-01 Suntec Tower One, 038987, SINGAPORE  
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#### Emergency information:

International emergency number:  
Telephone: +49 180 2273-112

## 2. Composition/information on ingredients

### Chemical nature

Hexane, 1,6-diisocyanato-, homopolymer  
CAS Number: 28182-81-2

### Hazardous ingredients

1,6-hexamethylene diisocyanate  
Content (W/W): < 0.5 %  
CAS Number: 822-06-0  
EC-Number: 212-485-8  
INDEX-Number: 615-011-00-1  
Hazard symbol(s): T  
R-phrases: 23, 36/37/38, 42/43

The wording of the hazard symbols and R-phrases is specified in chapter 16 if dangerous ingredients are mentioned.

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### 3. Hazard identification

May cause sensitization by skin contact.

### 4. First-Aid Measures

General advice:

Immediately remove contaminated clothing. If danger of loss of consciousness, place patient in recovery position and transport accordingly. Apply artificial respiration if necessary.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water.

On contact with eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Immediately rinse mouth and then drink plenty of water, do not induce vomiting, seek medical attention.

Note to physician:

Hazards: Symptoms can appear later.

Treatment: Inhale corticosteroid dose aerosol. Treat according to symptoms (decontamination, vital functions), no known specific antidote, administer corticosteroid dose aerosol to prevent pulmonary odema.

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### 5. Fire-Fighting Measures

Suitable extinguishing media:

dry extinguishing media, foam, carbon dioxide

Specific hazards:

carbon monoxide, carbon dioxide, hydrogen cyanide, 1,6-hexamethylene diisocyanate, nitrogen oxides, isocyanate

The substances/groups of substances mentioned can be released in case of fire. Evolution of fumes/fog.

Special protective equipment:

Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

Keep containers cool by spraying with water if exposed to fire. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. The degree of risk is governed by the burning substance and the fire conditions.

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## 6. Accidental Release Measures

Personal precautions:

Use personal protective clothing. Ensure adequate ventilation. Use breathing apparatus if exposed to vapours/dust/aerosol.

Environmental precautions:

Do not empty into drains. Do not discharge into the subsoil/soil.

Methods for cleaning up or taking up:

For large amounts: Pump off product.

For residues: Pick up with suitable absorbent material. Dispose of absorbed material in accordance with regulations.

Neutralize with a solution of 5 - 10 % Sodium carbonate, 0,2 - 2 % detergents and 90 - 95 % water.

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## 7. Handling and Storage

### Handling

Ensure thorough ventilation of stores and work areas. Provide suitable exhaust ventilation at the processing machines. Avoid aerosol formation. When handling heated product, vapours of the product should be ventilated, and respiratory protection used. Wear respiratory protection when spraying. Protect against moisture. Danger of bursting when sealed gastight. Products freshly manufactured from isocyanates can contain incompletely reacted isocyanates and other dangerous substances.

Protection against fire and explosion:

Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

### Storage

Keep away from water. Segregate from foods and animal feeds. Segregate from acids and bases.

Suitable materials for containers: carbon steel (iron), High density polyethylene (HDPE), Low density polyethylene (LDPE), tin (tinplate), Stainless steel 1.4301 (V2)

Further information on storage conditions: Keep container tightly closed in a cool, well-ventilated place. Protect against moisture. Formation of CO<sub>2</sub> and build up of pressure possible. Danger of bursting when sealed gastight.

Storage stability:

Protect against moisture.

If moisture enters isocyanate containers, CO<sub>2</sub> forms and pressure builds up.

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## 8. Exposure controls and personal protection

### Components with workplace control parameters

Hexane, 1,6-diisocyanato-, homopolymer, 28182-81-2;

1,6-hexamethylene diisocyanate, 822-06-0;  
TWA value 0.005 ppm (ACGIHTLV)  
TWA value 0.034 mg/m<sup>3</sup> ; 0.005 ppm (OEL (SG))

### Personal protective equipment

Respiratory protection:

Respiratory protection in case of vapour/aerosol release. Suitable respiratory protection for lower concentrations or short-term effect: Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:

Chemical resistant protective gloves (EN 374)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

butyl rubber (butyl) - 0.7 mm coating thickness

nitrile rubber (NBR) - 0.4 mm coating thickness

chloroprene rubber (CR) - 0.5 mm coating thickness

Unsuitable materials

polyvinylchloride (PVC) - 0.7 mm coating thickness

Polyethylene-Laminate (PE laminate) - ca. 0.1 mm coating thickness

Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

safety shoes (e.g. according to EN 20346)

General safety and hygiene measures:

Do not breathe vapour/spray. With products freshly manufactured from isocyanates body protection and chemical resistant protective gloves is recommended. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Keep away from food, drink and animal feeding stuffs. No eating, drinking, smoking or tobacco use at the place of work. Take off immediately all contaminated clothing. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied.

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## 9. Physical and Chemical Properties

Form: liquid  
Colour: colourless to yellowish  
Odour: faint specific odour

pH value:	not applicable	
Melting temperature:	-59 °C	
Boiling point:	not applicable	
Flash point:	approx. 180 °C	(DIN EN 22719; ISO 2719)
Lower explosion limit:	No data available.	
Upper explosion limit:	No data available.	
Ignition temperature:	approx. 445 °C	(DIN 51794)
Vapour pressure:	approx. 0.0001 hPa (50 °C)	(Directive 84/449/EEC, A.4)
Density:	1.14 g/cm <sup>3</sup> (20 °C)	(DIN 53217)
Solubility in water:	Hydrolyzes to form water-insoluble compounds.	
Partitioning coefficient n-octanol/water (log Pow):	not applicable	
volatility:	The substance will not evaporate into the atmosphere from the water surface.	
Viscosity, dynamic:	150 mPa.s (23 °C)	(DIN EN ISO 3219, Annex A)

## 10. Stability and Reactivity

Thermal decomposition: No decomposition if stored and handled as prescribed/indicated.

Substances to avoid:  
acids, alcohols, amines, water, Alkalines

Hazardous reactions:  
On contact with water, gaseous decomposition products are formed, which cause build-up of pressure in tightly closed containers. Risk of bursting. Reacts with substances which contain active hydrogen. Reacts with alcohols. Reacts with amines.

## 11. Toxicological Information

### Acute toxicity

Assessment of acute toxicity:  
Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation.

LD50 rat (oral): > 5,000 mg/kg

LC50 rat (by inhalation): 390 - 453 mg/m<sup>3</sup> 4 h

LD50 rabbit (dermal): > 5,000 mg/kg

### **Irritation**

Assessment of irritating effects:

Not irritating to the eyes. Not irritating to the skin.

Primary skin irritation rabbit: non-irritant (OECD Guideline 404)

Primary irritations of the mucous membrane rabbit: non-irritant (BASF-Test)

### **Sensitization**

Assessment of sensitization:

May cause sensitization by skin contact.

Guinea pig maximization test : sensitizing  
sensitizing effect in animal tests

### **Genetic toxicity**

Assessment of mutagenicity:

The chemical structure does not suggest a mutagenic effect.

### **Carcinogenicity**

Assessment of carcinogenicity:

No data available concerning carcinogenic effects.

### **Reproductive toxicity**

Assessment of reproduction toxicity:

No data available concerning reproduction toxicity.

### **Developmental toxicity**

Assessment of teratogenicity:

No data available concerning teratogenic effects.

### **Experiences in humans**

Information on: 1,6-hexamethylene diisocyanate  
coughing, tightness in the chest, dyspnea:

Can severely irritate the eyes and respiratory tract depending upon the concentration.

Prolonged inhalation of product vapour can result in irritation of the mucous membranes.

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## 12. Ecological Information

### Ecotoxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms.

Toxicity to fish:

LC50 (96 h) > 100 mg/l, *Brachydanio rerio*

Aquatic invertebrates:

EC50 (48 h) > 100 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)

Nominal concentration. The product may hydrolyse. The test result maybe partially due to degradation products. The product has not been tested. The statement has been derived from products of a similar structure and composition.

Aquatic plants:

EC50 (72 h) > 50 - < 100 mg/l (growth rate), *Scenedesmus subspicatus* (OECD Guideline 201, static)

Nominal concentration. The product has low solubility in the test medium. An eluate has been tested. The product may hydrolyse. The test result maybe partially due to degradation products.

### Mobility

Assessment transport between environmental compartments:

The substance will not evaporate into the atmosphere from the water surface.

### Persistence and degradability

Assessment biodegradation and elimination (H<sub>2</sub>O):

Poorly biodegradable. The product is unstable in water. The elimination data also refer to products of hydrolysis. Can be eliminated mechanically.

Elimination information:

1 % BOD of the ThOD (28 d) (OECD 301D; EEC 92/69, C.4-E) (aerobic, activated sludge, domestic, non-adapted) Not readily biodegradable (by OECD criteria).

20 - 30 % CO<sub>2</sub> formation relative to the theoretical value (28 d) (OECD 301B; ISO 9439; 92/69/EEC, C.4-C) (activated sludge) Poorly biodegradable.

Information on Stability in Water (Hydrolysis):

t<sub>1/2</sub> < 1 h, (OECD Guideline 111)

In contact with water the substance will hydrolyse rapidly.

Photodegradation:

t<sub>1/2</sub> (Indirect photolysis) 10.259 h; OH radical (calculated)

After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

### Bioaccumulation potential

Bioaccumulation potential:

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Accumulation in organisms is not to be expected. The product has not been tested. The statement has been derived from the structure of the product.

### Other adverse effects

Adsorbable organically-bound halogen (AOX):  
This product contains no organically-bound halogen.

### Additional information

Other ecotoxicological advice:  
Do not release untreated into natural waters. Do not allow to enter soil, waterways or waste water channels. The product has not been tested. The statement has been derived from products of a similar structure and composition.

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## 13. Disposal Considerations

Incinerate in suitable incineration plant, observing local authority regulations.  
Dispose of isocyanate waste in dry containers and never mix together with other wastes (reaction, dangerous pressure build up).

Contaminated packaging:  
Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

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## 14. Transport Information

### Domestic transport:

Not classified as a dangerous good under transport regulations

### 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

### Regulations of the European union (Labelling)

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Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances:

Hazard symbol(s)

Xi	Irritant.
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R-phrases(s)

R43	May cause sensitization by skin contact.
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S-phrases(s)

S23.3	Do not breathe vapour/spray.
S37	Wear suitable gloves.

Contains isocyanates. Observe manufacturer's instructions.

Hazard determining component(s) for labelling: HEXAMETHYLENE-1,6-DIISOCYANATE

### Other regulations

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## 16. Other Information

Recommended use: polyurethane component

Full text of hazard symbols and R-phrases if mentioned as hazardous components in chapter 2:

T	Toxic.
23	Toxic by inhalation.
36/37/38	Irritating to eyes, respiratory system and skin.
42/43	May cause sensitization by inhalation and skin contact.

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Vertical lines in the left hand margin indicate an amendment from the previous version.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.