



Trade name: ClearShield Transit Part B

Version: 1 /

Date revised: 29.01.2019

Substance number: 3602XX121

Replaces Version: - / WORLD

Print date: 29.01.19

## **SECTION 1: Identification of the substance/mixture and of the company/undertaking**

### **1.1. Product identifier**

ClearShield Transit Part B

### **1.2. Relevant identified uses of the substance or mixture and uses advised against**

#### **Use of the substance/preparation**

Screen and pad printing auxiliary

### **1.3. Details of the supplier of the safety data sheet**

#### **Address**

Marabu GmbH & Co. KG  
Asperger Strasse 4  
71732 Tamm  
Germany  
Telephone no. +49-7141/691-0  
Fax no. +49-7141/691-147  
Information provided Department product safety  
by / telephone

### **1.4. Emergency telephone number**

(+49) (0)621-60-43333

## **SECTION 2: Hazards identification**

### **2.1. Classification of the substance or mixture**

#### **Classification (Regulation (EC) No. 1272/2008)**

Classification (Regulation (EC) No. 1272/2008)

Acute Tox. 4	H332
Skin Sens. 1	H317
STOT SE 3	H335

### **2.2. Label elements**

#### **Labelling according to regulation (EC) No 1272/2008**

##### **Hazard pictograms**



##### **Signal word**

Warning

##### **Hazard statements**

H332	Harmful if inhaled.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.

##### **Precautionary statements**

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.



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P312 Call a POISON CENTER or doctor if you feel unwell.  
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

**Hazardous component(s) to be indicated on label (Regulation (EC) No. 1272/2008)**

contains Hexamethylene-1,6-diisocyanate, homopolymer;Hexamethylene diisocyanate

**Supplemental information**

EUH204 Contains isocyanates. May produce an allergic reaction.

**2.3. Other hazards**

No special hazards have to be mentioned.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****Hazardous ingredients****Hexamethylene-1,6-diisocyanate, homopolymer**

CAS No.	28182-81-2				
Registration no.	01-2119485796-17				
Concentration	>= 55	<	100		%

Classification (Regulation (EC) No. 1272/2008)

Skin Sens. 1	H317
Acute Tox. 4	H332
STOT SE 3	H335

**Hexamethylene diisocyanate**

CAS No.	822-06-0				
EINECS no.	212-485-8				
Registration no.	01-2119457571-37				
Concentration	>= 0,1	<	0,12		%

Classification (Regulation (EC) No. 1272/2008)

Acute Tox. 1	H330
Eye Irrit. 2	H319
STOT SE 3	H335
Skin Irrit. 2	H315
Resp. Sens. 1	H334
Skin Sens. 1	H317
Acute Tox. 4	H302

Concentration limits (Regulation (EC) No. 1272/2008)

Resp. Sens. 1	H334	>= 0,5
Skin Sens. 1	H317	>= 0,5

**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious place in recovery position and seek medical advice.

**After inhalation**

Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

**After skin contact**

Remove contaminated clothing. Wash skin thoroughly with soap and water or use recognised skin



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cleanser. Do NOT use solvents or thinners.

#### **After eye contact**

Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

#### **After ingestion**

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

### **4.2. Most important symptoms and effects, both acute and delayed**

Until now no symptoms known so far.

### **4.3. Indication of any immediate medical attention and special treatment needed**

#### **Hints for the physician / treatment**

Treat symptomatically

## **SECTION 5: Firefighting measures**

### **5.1. Extinguishing media**

#### **Suitable extinguishing media**

Recommended: alcohol resistant foam, CO<sub>2</sub>, powders, water spray/mist, Not be used for safety reasons: water jet

### **5.2. Special hazards arising from the substance or mixture**

In the event of fire the following can be released: Carbon monoxide (CO); Carbon dioxide (CO<sub>2</sub>); dense black smoke; Nitrogen oxides (NO<sub>x</sub>); Hydrogen cyanide (HCN)

### **5.3. Advice for firefighters**

#### **Special protective equipment for fire-fighting**

Cool closed containers exposed to fire with water. Do not allow run-off from fire fighting to enter drains or water courses. Use self-contained breathing apparatus. Wear full chemical protective clothing.

## **SECTION 6: Accidental release measures**

### **6.1. Personal precautions, protective equipment and emergency procedures**

Wear personal protective equipment. Ensure adequate ventilation. Refer to protective measures listed in Sections 7 and 8.

### **6.2. Environmental precautions**

Do not allow to enter drains or waterways. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations.

### **6.3. Methods and material for containment and cleaning up**

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth. Place in a suitable container. The contaminated area should be cleaned up immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts), concentrated (d = 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts), water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in non-sealed container. Once this stage is reached, close container and dispose according to local regulations (see section 13).

### **6.4. Reference to other sections**

Information regarding Safe handling, see Section 7. Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

## **SECTION 7: Handling and storage**



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## 7.1. Precautions for safe handling

### Advice on safe handling

Provide good ventilation of working area (local exhaust ventilation if necessary). Avoid inhalation of vapour and spray mist. If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn. For personal protection see Section 8. Avoid skin and eye contact. Care should be taken when re-opening partly used containers. Precautions should be taken to minimise exposure to atmospheric humidity or water: CO<sub>2</sub> will be formed which in closed containers can result in pressurisation. Smoking, eating and drinking shall be prohibited in application area. Never use pressure to empty: container is not a pressure vessel. Always keep in containers of same material as the original one. Comply with the health and safety at work laws. Do not allow to enter drains or water courses. Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be exposed to any process in which this mixture is used.

### Classification of fires / temperature class / Ignition group / Dust explosion class

Classification of fires                      B (Combustible liquid substances)

## 7.2. Conditions for safe storage, including any incompatibilities

### Requirements for storage rooms and vessels

Electrical installations/working materials must comply with the local applied technological safety standards. Storage rooms in which filling operations take place must have a conducting floor. Store in accordance with national regulation

### Hints on storage assembly

Store away from oxidising agents, from strongly alkaline and strongly acid materials as well as amines, alcohols and water.

### Further information on storage conditions

Observe label precautions. Store between 15 and 30 °C in a dry, well ventilated place away from sources of heat and direct sunlight. Keep container tightly closed and dry in a cool, well-ventilated place. Prevent unauthorised access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

## 7.3. Specific end use(s)

Screen and pad printing auxiliary

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Derived No/Minimal Effect Levels (DNEL/DMEL)

##### Hexamethylene-1,6-diisocyanate, homopolymer

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	0,5	mg/m <sup>3</sup>

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	1	mg/m <sup>3</sup>

#### Predicted No Effect Concentration (PNEC)

##### Hexamethylene-1,6-diisocyanate, homopolymer



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Type of value	PNEC		
Type	Freshwater		
Concentration	0,127		mg/l
Type of value	PNEC		
Type	Saltwater		
Concentration	0,0127		mg/l
Type of value	PNEC		
Type	Water (intermittent release)		
Concentration	1,27		mg/l
Type of value	PNEC		
Type	Sewage treatment plant (STP)		
Concentration	38,3		mg/l
Type of value	PNEC		
Type	Freshwater sediment		
Concentration	266700		mg/kg
Type of value	PNEC		
Type	Marine sediment		
Concentration	26670		mg/kg
Type of value	PNEC		
Type	Soil		
Concentration	53182		mg/kg

**8.2. Exposure controls**

**Exposure controls**

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Air-fed protective respiratory equipment must be worn by spray operator even when good ventilation is provided. In other operations, if local exhaust ventilation and good general extraction are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn. (See Personal Protection.). Dry sanding, flame cutting and/or welding of the dry paint film may give rise to dust and/or hazardous fumes. Wet [sanding]/[flattening] should be used wherever possible. If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used. Under cool dry conditions, it is possible for the isocyanate to remain unreacted in the paint film for up to 30 hours after application. If dry flattening is unavoidable air fed respiratory protective equipment should be used.

**General protective and hygiene measures**

Personal protective equipment must comply with the Council Directive 89/686/EEC and the resulting CEN standards.

**Respiratory protection**

When spraying: air fed respirator. For operations other than spraying: In well ventilated areas, air-fed respirators could be replaced by a combination of charcoal filter and particulate filter mask. Respiratory protection mask with combination filter A/P2; The respiratory protection must comply with the relevant CEN standards.

**Hand protection**

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.

Appropriate Material	Butyl rubber		
Material thickness	>= 0,5		mm
Breakthrough time	>= 480		min



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The breakthrough time must be greater than the end use time of the product.  
 The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.  
 Gloves should be replaced regularly and if there is any sign of damage to the glove material.  
 Always ensure that gloves are free from defects and that they are stored and used correctly.  
 The performance or effectiveness of the glove may be reduced by physical/ chemical damage and poor maintenance.  
 Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred.

**Eye protection**

Use safety eyewear designed to protect against splash of liquids. Eye protection must comply with EN 166.

**Body protection**

Personnel should wear protective clothing. Personal protective clothing must comply with the relevant CEN standards.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties****Odour threshold**

Remarks No data available

**pH value**

Remarks Not applicable

**Melting point**

Remarks not determined

**Freezing point**

Remarks not determined

**Initial boiling point and boiling range**

Remarks Not applicable

**Evaporation rate (ether = 1) :**

Remarks not determined

**Flammability (solid, gas)**

Not applicable

**Upper/lower flammability or explosive limits**

Remarks not determined

**Vapour density**

Remarks not determined

**Density**

Remarks not determined

**Partition coefficient: n-octanol/water**

Remarks Not applicable

**Ignition temperature**

Remarks not determined

**Explosive properties**

evaluation no

**Oxidising properties**

evaluation None known

**9.2. Other information**



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**Other information**

The physical specifications are approximate values and refer to the used safety relevant component(s).

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

The product reacts slowly with water resulting in evolution of carbon dioxide.

**10.2. Chemical stability**

Stable under recommended storage and handling conditions (see section 7).

**10.3. Possibility of hazardous reactions**

Keep away from oxidising agents, strongly alkaline and strongly acid materials, amines, alcohols and water. In closed containers, pressure build up could result in distortion, blowing and in extreme cases bursting of the container.

**10.4. Conditions to avoid**

In a fire, hazardous decomposition products may be produced.

**10.5. Incompatible materials**

Uncontrolled exothermic reactions occur with amines and alcohols.

**10.6. Hazardous decomposition products**

such as smoke, carbon monoxide, carbon dioxide, oxides of nitrogen, hydrogen cyanide, monomeric isocyanates.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

**Acute oral toxicity**

Remarks Based on available data, the classification criteria are not met.

**Acute dermal toxicity**

Remarks Based on available data, the classification criteria are not met.

**Acute inhalational toxicity**

Remarks The classification criteria are met.

**Skin corrosion/irritation**

Remarks Based on available data, the classification criteria are not met.

**Serious eye damage/irritation**

Remarks Based on available data, the classification criteria are not met.

**Sensitization**

evaluation May cause sensitization by skin contact.

Remarks The classification criteria are met.

**Mutagenicity**

Remarks Based on available data, the classification criteria are not met.

**Reproductive toxicity**

Remarks Based on available data, the classification criteria are not met.

**Carcinogenicity**

Remarks Based on available data, the classification criteria are not met.

**Specific Target Organ Toxicity (STOT)**

**Single exposure**

Remarks The classification criteria are met.

evaluation May cause respiratory irritation.





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**Repeated exposure**

Remarks Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Experience in practice**

Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitisation of the respiratory system leading to an asthmatic condition, wheeziness and a tightness of the chest. Incorrect use may give rise to severe localised irritation of the skin, eyes, and respiratory tracts. Sensitised persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Repeated or prolonged skin contact may lead to allergic contact dermatitis.

**Other information**

There are no data available on the mixture itself.  
The mixture has been assessed following the additivity method of the GHS/CLP Regulation (EC) No 1272/2008.

**SECTION 12: Ecological information**

**12.1. Toxicity**

**General information**

There are no data available on the mixture itself. Do not allow to enter drains or water courses. The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is not classified as dangerous for the environment.

**12.2. Persistence and degradability**

**General information**

No data available

**12.3. Bioaccumulative potential**

**General information**

There are no data available on the mixture itself.

**Partition coefficient: n-octanol/water**

Remarks Not applicable

**12.4. Mobility in soil**

**General information**

There are no data available on the mixture itself.

**12.5. Results of PBT and vPvB assessment**

**General information**

There are no data available on the mixture itself.

**12.6. Other adverse effects**

**General information**

There are no data available on the mixture itself.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Disposal recommendations for the product**

Do not allow to enter drains or water courses.





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Residues in empty containers should be neutralised with decontaminant (see section 6).  
 Wastes and emptied containers should be classified in accordance with relevant national regulation.  
 The European Waste Catalogue classification of this product, when disposed of as waste is  
 EWC waste code 08 03 12\* waste ink containing dangerous substances  
 If this product is mixed with other wastes, the original waste product code may no longer apply and the  
 appropriate code should be assigned.  
 For further information contact your local waste authority.

**Disposal recommendations for packaging**

Using information provided in this safety data sheet, advice should be obtained from the relevant waste  
 authority on the classification of empty containers.  
 Empty containers must be scrapped or reconditioned.  
 Not emptied containers are hazardous waste (waste code number 150110).

**SECTION 14: Transport information**

**Land transport ADR/RID**

Non-dangerous goods

**14.1. UN number**

UN -

**14.2. UN proper shipping name**

-

**14.3. Transport hazard class(es)**

Class -

Label -

**14.4. Packing group**

Packing group -

Transport category 0

**14.5. Environmental hazards**

-

**Marine transport IMDG/GGVSee**

The product does not constitute a hazardous substance in sea transport.

**14.1. UN number**

UN -

**14.2. UN proper shipping name**

-

**14.3. Transport hazard class(es)**

Class -

Subsidiary risk -

**14.4. Packing group**

Packing group -

**14.5. Environmental hazards**

no

**Air transport ICAO/IATA**

The product does not constitute a hazardous substance in air transport.

**14.1. UN number**

UN -

**14.2. UN proper shipping name**

-

**14.3. Transport hazard class(es)**

Class -

Subsidiary risk -

**14.4. Packing group**

Packing group -

**14.5. Environmental hazards**

-



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## Information for all modes of transport

### 14.6. Special precautions for user

Transport within the user's premises:

Always transport in closed containers that are upright and secure.

Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## Other information

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

no

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Other information

The product does not contain substances of very high concern (SVHC).

### 15.2. Chemical safety assessment

For this preparation a chemical safety assessment has not been carried out.

## SECTION 16: Other information

### Hazard statements listed in Chapter 3

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.

### CLP categories listed in Chapter 3

Acute Tox. 1	Acute toxicity, Category 1
Acute Tox. 4	Acute toxicity, Category 4
Eye Irrit. 2	Eye irritation, Category 2
Resp. Sens. 1	Respiratory sensitization, Category 1
Skin Irrit. 2	Skin irritation, Category 2
Skin Sens. 1	Skin sensitization, Category 1
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

### Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: \*\*\*

This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.

The information in this Safety Data Sheet is based on the present state of knowledge and current legislation.

It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions.

As the specific conditions of use of the product are outside the supplier's control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.

The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation.