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Conforms to EU Regulation 1907/2006/EC as amended. - SDSCLP\_GB

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

### 1. Product identifier

Trade name : TTP90 Adhesive

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

Use of the Substance/Mixture : Adhesives

<b>1.3 Details of the supplier of the safety data sheet</b> Tough Technology Products Limited 114 Washway Road, Sale, Cheshire M44 7RF. United Kingdom <a href="mailto:sales@ttproducts.com">sales@ttproducts.com</a>	<b>1.4 Emergency telephone number</b> +44 800 772 0996 (mon-fri: 08.30 - 16.00)  <b>Product Information</b> +44 800 772 0996
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## SECTION 2: Hazards identification

### 1. Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)

Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Respiratory sensitisation, Category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.

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Version: 4.1**Classification (67/548/EEC, 1999/45/EC)**

Harmful

R20: Harmful by inhalation.

R48/20: Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Carcinogenic Category 3

R40: Limited evidence of a carcinogenic effect.

Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.

Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

**2. Label elements****Labelling (REGULATION (EC) No 1272/2008)**

Hazard pictograms

:



Signal word

:

Danger

Hazard statements

:

H315

Causes skin irritation.

H317

May cause an allergic skin reaction.

H319

Causes serious eye irritation.

H334

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335

May cause respiratory irritation.

H351


Suspected of causing cancer.

H373

May cause damage to organs through prolonged or repeated exposure.

Precautionary statements :	<b>Prevention:</b>	
	P201	Obtain special instructions before use.
	P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
	P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
	P285	In case of inadequate ventilation wear respiratory protection.
	<b>Response:</b>	
	P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
	P362 + P364	Take off contaminated clothing and wash

Hazardous components which must be listed on the label:

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9016-87-9	Methylenediphenyldiisocyanate, isomers and homologues
25686-28-6	DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER
101-68-8	4,4'-Methylenediphenyl diisocyanate Reaction mass of 4,4'-methylenediphenyldiisocyanate and o- (pisocyanatobenzyl)phenylisocyanate
52409-10-6	Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.',.alpha."-1,2,3- propanetriyltris[.omega.-hydroxy-, polymer with 1,1'- methylenebis[4- isocyanatobenzene]

**Additional Labelling:**

Contains isocyanates. May produce an allergic reaction.

**3. Other hazards**

Assessment : PBT substance , vPvB substance - not determined

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**SECTION 3: Composition/information on ingredients**

**3.2 Mixtures**

**Hazardous components**

Chemical Name	CAS- No. EC-	Classificati on (67/548/ EEC)	Classification (REGULATION (EC) No	Concentrati on [%]
Methylenediphenyl diisocyanate, isomers and homologues	9016-87-9 618-498-9	Carc.Cat.3; R40 Xn; R20- R48/20 Xi; R36/37/38 R42/43	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 Carc. 2; H351 STOT SE 3; H335 STOT RE 2; H373	>= 15 - < 20

DIPHENYLMET HA NE DIISOCYANATE HOMOPOLYME R	25686-28-6 01-2119457013-49-xxxx	Xn; R20- R42/43- R48/20 Xi; R36/37/38 Xn; Carc.Cat. 3; R40	Acute Tox. 4; H332 Skin Irrit. 2; H315 Resp. Sens. 1A; H334 Skin Sens. 1A; H317 Carc. 2; H351 STOT SE 3; H335 STOT RE	>= 10 - < 15
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4,4'-Methylenediphenyl diisocyanate	101-68-8 202-966-0	Xn; Carc.Cat. 3; R40 Xn; R20-R48/20 Xi; R36/37/38 R42/43	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 Carc. 2; H351 STOT SE 3; H335 STOT RE 2; H373	>= 10 - < 15
Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(isocyanatobenzyl)phenylisocyanate	01-2119457015-45-xxxx	Xn; Carc.Cat. 3; R40 Xn; R20-R48/20 Xi; R36/37/38 Xn; R42/43	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 Carc. 2; H351 STOT SE 3; H335 STOT RE 2; H373	>= 5 - < 10
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.',.alpha lp ha."-1,2,3-propanetriyltris[omega-hydroxy-, polymer with 1,1'-methylenebis[4-	52409-10-6	Xn; Carc.Cat. 3; R40 Xn; R20-R48/20 Xi; R36/37/38 R42/43	Acute Tox. 4; H332 Resp. Sens. 1; H334 Skin Sens. 1; H317 Carc. 2; H351 STOT SE 3; H335 STOT RE 2; H373 Eye Irrit. 2; H319 Skin Irrit. 2; H315	>= 1 - < 2,5
WEL substance:				
Zeolites	1318-02-1 215-283-8			>= 10 - < 15
Talc	14807-96-6 238-877-9			>= 5 - < 10

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-Statements mentioned in this Section, see Section 16.

**SECTION 4: First aid measures**

**1. Description of first aid measures**



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- General advice : Consult a physician.  
Show this safety data sheet to the doctor in attendance.
- If inhaled : Move to fresh air.  
Consult a physician after significant exposure.  
If symptoms persist, call a physician.  
In case of shortness of breath, give oxygen.
- In case of skin contact : Take off contaminated clothing and shoes immediately.  
Wash off immediately with plenty of water. If skin irritation persists, call a physician.
- In case of eye contact : Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention. Remove contact lenses.
- If swallowed : Do not induce vomiting without medical advice.  
Never give anything by mouth to an unconscious person. Consult a physician if necessary.

**2. Most important symptoms and effects, both acute and delayed**

Symptoms : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:  
stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways)  
Cough  
Headache  
chest pain  
lung edema (fluid buildup in the lung tissue)  
Exposure to this product (or a component) may cause an allergic reaction (narrowing of the air passages of the lungs resulting in difficult breathing, tightness in the chest, coughing and wheezing) in some sensitive individuals. Other symptoms of an allergic reaction may include itchy and watery eyes, runny and stuffy nose, sweating, flushing, hives, rapid heart rate, and lowered blood pressure.  
Difficulty in breathing

Risks : Pulmonary edema may be delayed.

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

Treatment : No hazards which require special first aid measures.

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Version: 4.1**SECTION 5: Firefighting measures****1. Extinguishing media**

Suitable extinguishing media : ABC powder  
Carbon dioxide  
(CO<sub>2</sub>) Dry chemical  
Water mist

Unsuitable extinguishing media : Halons

**2. Special hazards arising from the substance or mixture**

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : carbon dioxide and carbon monoxide  
Hydrocarbons  
Hydrogen cyanide (hydrocyanic acid)  
Isocyanates  
Nitrogen oxides (NO<sub>x</sub>)

**3. Advice for firefighters**

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

Further information : Keep containers and surroundings cool with water spray.  
Prevent fire extinguishing water from contaminating surface water or the ground water system.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**SECTION 6: Accidental release measures****1. Personal precautions, protective equipment and emergency procedures**

Personal precautions : Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

**2. Environmental precautions**

Environmental precautions :  
Do not flush into surface water.  
Do not let product enter drains.  
Do not allow material to contaminate ground water system.

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Local authorities should be advised if significant spillages cannot be contained.

: Prevent further leakage or spillage if safe to do so.

**3. Methods and materials for containment and cleaning up**

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Large spills should be collected mechanically (remove by pumping) for disposal. Keep in suitable, closed containers for disposal.

**4. Reference to other sections**

No data available

**SECTION 7: Handling and storage****1. Precautions for safe handling**

Advice on safe handling : Avoid formation of aerosol. Do not breathe vapours or spray mist. Avoid contact with skin and eyes. For personal protection see section 8. Provide sufficient air exchange and/or exhaust in work rooms. Avoid exceeding the given occupational exposure limits (see section 8). Smoking, eating and drinking should be prohibited in

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

**2. Conditions for safe storage, including any incompatibilities**

Requirements for storage areas and containers : Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.

Other data : Stable under recommended storage conditions.

**3. Specific end use(s)**

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No data available

**SECTION 8: Exposure controls/personal protection**

**1. Control parameters**

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Components	CAS-No.	Value	Form of Exposure	Control parameter	Update	Basis
Methylenediphenyldiisocyanate, isomers	9016-87-9	TWA		0,02 mg/m <sup>3</sup>	2007	EH 40 WE L
Further information	as NCO					
Methylenediphenyldiisocyanate, isomers	9016-87-9	STEL		0,07 mg/m <sup>3</sup>	2007	EH 40 WE L
4,4'-Methylenediphenyl	101-68-8	TWA		0,02 mg/m <sup>3</sup>	2007	EH 40 WE
4,4'-Methylenediphenyl	101-68-8	STEL		0,07 mg/m <sup>3</sup>	2007	EH 40 WF
Zeolites	1318-02-1	TWA	Inhalable dust.	10 mg/m <sup>3</sup>	2007	EH 40
Further information						
Zeolites	1318-02-1	TWA	Respirable	4 mg/m <sup>3</sup>	2007	EH 40
Talc	14807-96-6	TWA	Respirable	1 mg/m <sup>3</sup>	2007	EH 40

## PNEC

DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER : Aquatic (marine water)  
Value: 0,1 mg/l

DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER : Aquatic (freshwater) Value:  
1 mg/l

DIPHENYLMETHANE  
DIISOCYANATE  
HOMOPOLYMER : Sewage treatment  
plant Value: 1 mg/l

DIPHENYLMETHANE  
DIISOCYANATE  
HOMOPOLYMER : Aquatic (intermit.  
releases) Value: 10 mg/l

DIPHENYLMETHANE  
DIISOCYANATE  
HOMOPOLYMER : Soil  
Value: 1 mg/kg



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Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below level of overexposure (from known, suspected or apparent adverse effects).

**Personal protective equipment**

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.  
In the case of vapour formation use a respirator with an approved filter.

Hand protection : Wear resistant gloves such as:  
butyl-rubber  
Nitrile  
rubber

Eye protection : Safety glasses with side-shields

Skin and body protection : Wear as appropriate:  
Safety shoes

Hygiene measures : Keep away from food, drink and animal feedingstuffs.  
When using do not eat, drink or smoke.  
Ensure that eyewash stations and safety showers are close to the workstation location.

**Environmental exposure controls**

General advice : Do not flush into surface water.  
Do not let product enter drains.  
Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.  
: Prevent further leakage or spillage if safe to do so.

**SECTION 9: Physical and chemical properties**

## 1. Information on basic physical and chemical properties

Appearance	:	viscous; liquid
Colour	:	beige
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	Not applicable

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Freezing point / Melting point : No data available

Boiling point : &gt; 200 °C

Flash point : &gt; 100 °C

Evaporation rate : &lt; 1; n-Butyl Acetate

Flammability (solid, gas) : No data available

Burning rate : No data available

Lower explosion limit : No data available

Upper explosion limit : No data available

Vapour pressure : &lt; 0,0133 hPa; 25 °C

Relative vapour density : &gt; 1; (Air = 1.0)

Relative density : No data available

Density : ca. 1,288 g/cm<sup>3</sup>; 20 °C

Water solubility : practically insoluble, Decomposes in contact with water.

Solubility in other solvents : No data available

Partition coefficient:  
n- octanol/water : No data available

Auto-ignition temperature : No data available

Ignition temperature	:	No data available
Thermal decomposition	:	No data available
Viscosity, dynamic	:	ca. 20.000 mPa.s
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

## 2. Other information

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Bulk density : No data available

**SECTION 10: Stability and reactivity****1. Reactivity**

Hazardous polymerisation does not occur.

**2. Chemical stability**

No hazards to be specially mentioned.

**3. Possibility of hazardous reactions**

Hazardous reactions : Further information: No hazards to be specially mentioned.

: Hazardous polymerisation does not occur.

**4. Conditions to avoid**Conditions to avoid : Freezing temperatures.  
Heat, flames and  
sparks. Exposure to  
moisture**5. Incompatible materials**Materials to avoid : Acids  
Alcohols alkenes  
aluminum Amines  
Ammonia Bases  
Copper alloys  
fluorides  
Iron  
strong alkalis  
water  
Zinc Aluminium**6. Hazardous decomposition products**

Hazardous decomposition products : carbon dioxide and carbon monoxide  
Hydrocarbons  
Hydrogen cyanide (hydrocyanic acid)  
Isocyanates  
Nitrogen oxides (NOx)

**SAFETY DATA SHEET**TTP90  
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Version: 4.1**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Product**

Acute oral toxicity : No data available

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

Skin corrosion/irritation : No data available

Serious eye damage/eye irritation : No data available

Respiratory or skin sensitisation : No data available

STOT - repeated exposure : Target Organs: Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals:; nasal damage, lung damage, Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans:; effects on lung functionOverexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals:; nasal damage, lung damage, Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans:; effects on lung function

**Components:****Methylenediphenyldiisocyanate, isomers and homologues :**

Acute oral toxicity : LD 50: &gt; 10.000 mg/kg, Rat

Acute inhalation toxicity : LC 50: > 2,24 mg/l, 1 h, Rat, dust/mist, OECD Test Guideline 403, The component/mixture is classified as acute inhalation toxicity, category 4.

Acute dermal toxicity : LD 50: > 10.000 mg/kg, Rabbit

Respiratory or skin sensitisation : Classification: May cause sensitisation by skin contact.



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- STOT - single exposure : Classification: May cause sensitization by inhalation.  
: Exposure routes: Inhalation  
Target Organs: Respiratory system  
Assessment: May cause respiratory
- STOT - repeated exposure : Exposure routes: Inhalation  
Target Organs: Respiratory system  
Assessment: May cause damage to organs through  
prolonged or repeated exposure.

**DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER :**

- Acute oral toxicity : LD 50: > 5.000 mg/kg, Rat, OECD Test  
Guideline 425, GLP:  
yes
- Acute inhalation toxicity : The component/mixture is classified as acute inhalation  
toxicity, category 4.
- Acute dermal toxicity : > 9.400 mg/kg, Rabbit, Information given is based on data  
obtained from similar substances.
- Respiratory or skin sensitisation : Maximisation Test (GPMT), Guinea pig, Classification:  
May  
cause sensitization by skin contact.  
: Classification: May cause sensitization by inhalation.
- Germ cell mutagenicity
- Genotoxicity in vitro : Ames test, Result: negative, Information given is based on  
data obtained from similar substances.
- Genotoxicity in vivo : In vivo micronucleus test, Rat, OECD Test Guideline  
474, Information given is based on data obtained from  
similar substances.
- STOT - single exposure : Exposure routes: Inhalation  
Target Organs: Respiratory  
Tract

STOT - repeated exposure : Exposure routes: Inhalation  
Target Organs: Respiratory Tract  
Assessment: May cause damage to organs through  
prolonged or repeated exposure.

**4,4'-Methylenediphenyl diisocyanate :**

Acute oral toxicity : LD 50: 9.200 mg/kg, Rat

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- Acute inhalation toxicity : LC 50: 0,369 mg/l, 4 h, Rat,  
Acute inhalation toxicity : LC 50: > 2,24 mg/l, 1 h, Rat, dust/mist, OECD Test Guideline 403, The component/mixture is classified as acute inhalation toxicity, category 4.
- Acute dermal toxicity : LD 50: > 7.900 mg/kg, Rabbit
- Respiratory or skin sensitisation : Classification: May cause sensitization by inhalation.  
: Classification: May cause sensitization by skin contact.
- STOT - single exposure : Exposure routes: Inhalation  
Target Organs: Respiratory system  
Assessment: May cause respiratory
- STOT - repeated exposure : Exposure routes: Inhalation  
Target Organs: Respiratory system  
Assessment: May cause damage to organs through prolonged or repeated exposure.
- Further information : Lung

**Reaction mass of 4,4'-methylenediphenyldiisocyanate and o-(piscyanatobenzy)phenylisocyanate :**

- Acute oral toxicity : LD 50: > 2.000 mg/kg, Rat, Based on a similar product formulation.
- Acute inhalation toxicity : LC 50: 490 mg/m3, 4 h, Rat, Aerosol, Based on a similar product formulation.
- Respiratory or skin sensitisation : Classification: May cause sensitization by inhalation.  
: Classification: May cause sensitization by skin contact.

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**SECTION 12: Ecological information**

**1. Toxicity**

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No data available

**Components:****Methylenediphenyldiisocyanate, isomers and homologues:**

Toxicity to fish : LC50: > 3.000 mg/l, 96 h, Oryzias latipes (Orange-red killifish), semi-static test

Toxicity to daphnia and other aquatic invertebrates : EC50: > 100 mg/l, 24 h, Water flea (Daphnia magna), static test, OECD Test Guideline 202

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 10 mg/l, 21 d, 21 d, Water flea (Daphnia magna), semi-static test, OECD Test Guideline 211

**DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER:**

Toxicity to fish : LC 50: > 3.000 mg/l, 96 h, Oryzias latipes (Japanese medaka), semi-static test, Information given is based on data

Toxicity to daphnia and other aquatic invertebrates : > 1.000 mg/l, 24 h, Daphnia magna (Water flea), static test, OECD Test Guideline 202, Information given is based on data obtained from similar substances.

Toxicity to algae : NOEC: 1.640 mg/l, 72 h, 72 h, Desmodesmus subspicatus (green algae), static test, OECD Test Guideline 201, Information given is based on data obtained from similar substances.

**4,4'-Methylenediphenyl diisocyanate:**

Toxicity to fish : LC50: > 3.000 mg/l, 96 h, *Oryzias latipes* (Orange-red killifish), semi-static test, Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates : EC50: > 100 mg/l, 24 h, Water flea (*Daphnia magna*), static test, OECD Test Guideline 202, Information given is based on data obtained from similar substances.

Toxicity to daphnia and other : NOEC: > 10 mg/l, 21 d, 21 d, Water flea (*Daphnia magna*),

**SAFETY DATA SHEET**TTP90  
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Version: 4.1aquatic invertebrates  
(Chronic toxicity)semi-static test, OECD Test Guideline 211,  
Information given is based on data obtained from  
similar substances.**Reaction mass of 4,4'-methylenediphenyldiisocyanate and o-(piscyanatobenzyl)phenylisocyanate:**Toxicity to fish : LC0: > 1 mg/l, 96 h, Danio rerio (zebra  
fish), OECD Test  
Guideline 203Toxicity to daphnia and : EC 50: > 1 mg/l, 24 h, Water flea (Daphnia magna), OECD  
other : Test Guideline 202  
aquatic invertebratesToxicity to bacteria : EC 50: > 100 mg/l, 3 h, activated sludge, OECD Test  
Guideline 209,  
Based on a similar product formulation.**2. Persistence and degradability****Product:**

No data available

**Components:****Methylenediphenyldiisocyanate, isomers and homologues :**Biodegradability : 0 %, Result: Not biodegradable, Exposure time: 28 d,  
OECD  
Test Guideline 302C, Information given is based on  
data obtained from similar substances.**DIPHENYLMETHANE DIISOCYANATE HOMOPOLYMER :**Biodegradability : 0 %, Result: Not readily biodegradable., Exposure time: 28  
d,  
OECD Test Guideline 302C**4,4'-Methylenediphenyl diisocyanate :**

Biodegradability : 0 %, Result: Not biodegradable, Exposure time: 28 d, OECD Test Guideline 302C, Information given is based on data obtained from similar substances.

**Reaction mass of 4,4'-methylenediphenyldiisocyanate and o-(piscyanatobenzyl)phenylisocyanate :**

Biodegradability : 0 %, Exposure time: 28 d, OECD Test Guideline 302C, Information given is based on data obtained from similar substances.





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3.

Bioaccumulation : The bioaccumulation potential cannot be determined.

**Bioaccumulative potential Product:**

**Components:**

No data available

4. **Mobility in soil**

**Product:**

No data available

**Components:**

No data available

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

**Product:**

No data available

**Components:**

No data available

6. **Other adverse effects**

**Product:**

No data available

**Components:**

No data available

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

Product : Dispose of in accordance with the European Directives on waste and hazardous waste.

: Do not contaminate ponds, waterways or ditches with chemical or used container.  
Container hazardous when empty.  
Dispose of in accordance with local regulations.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Empty containers should be taken to an approved  
waste handling site for recycling or disposal.  
Do not re-use empty containers.



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Do not burn, or use a cutting torch on, the empty drum.

## SECTION 14: Transport information

### 1. UN number

**ADR:** Not dangerous goods

**ADNR:** Not dangerous goods

**RID:** Not dangerous goods

**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods

### 2. UN proper shipping

**name ADR:** Not dangerous

goods

**ADNR:** Not dangerous goods

**RID:** Not dangerous goods

**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods

### 3. Transport hazard

**class(es) ADR:** Not

dangerous goods

**ADNR:** Not dangerous goods

**RID:** Not dangerous goods

**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods

### 4. Packing group

**ADR:** Not dangerous goods

**ADNR:** Not dangerous goods

**RID:** Not dangerous goods

**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods

5. **Environmental**

**hazards ADR:** Not

applicable

**ADNR:** Not applicable

**RID:** Not applicable

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**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not applicable  
**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not applicable  
**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not applicable

**6. Special precautions for user**

Not applicable

**7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Ship Type: Not applicable  
Hazard code(s): Not applicable  
Pollutant Category: Not applicable

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

**SECTION 15: Regulatory information****1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Seveso II - Directive 2003/105/EC amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances

Directive 96/82/EC does not apply

**Notification status**

US. Toxic Substances Control Act n (Negative listing)

Canada. Canadian Environmental Protection Act (CEPA).  
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Assessment) Act n (Negative listing)

Japan. ENCS - Existing and New Chemical Substances  
Inventory n (Negative listing)

Korea. Toxic Chemical Control Law (TCCL) List n (Negative listing)

Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act n (Negative listing)

China. Inventory of Existing Chemical Substances n (Negative listing)

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Version: 4.1**2. Chemical Safety Assessment**

No data available

**SECTION 16: Other information****Full text of R-phrases referred to under sections 2 and 3**

R20	Harmful by inhalation.
R36/37/38	Irritating to eyes, respiratory system and skin.
R40	Limited evidence of a carcinogenic effect.
R42/43	May cause sensitisation by inhalation and skin contact.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.

**Full text of H-Statements referred to under sections 2 and 3.**

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

**Further information**

Other information : The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :

ACGIH : American Conference of Industrial Hygienists

BEI : Biological Exposure Index

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CMR : Carcinogenic, Mutagenic or Toxic for Reproduction

FG : Food grade

GHS : Globally Harmonized System of Classification and Labeling of Chemicals.



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H-statement : Hazard Statement

IATA : International Air Transport Association.

IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO : International Civil Aviation Organization

ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"

IMDG : International Maritime Code for Dangerous Goods

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logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population

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ICxx : Inhibitory Concentration for xx of a substance

Ecxx : Effective Concentration of xx

N.O.S.: Not Otherwise Specified

OECD : Organization for Economic Co-operation and Development

OEL : Occupational Exposure Limit

P-Statement : Precautionary Statement

PBT : Persistent , Bioaccumulative and Toxic

PPE : Personal Protective Equipment

STEL : Short-term exposure limit

STOT : Specific Target Organ Toxicity

TLV : Threshold Limit Value

TWA : Time-weighted average

vPvB : Very Persistent and Very Bioaccumulative

WEL : Workplace Exposure Level

ABM : Water Hazard Class for the Netherlands

ADR : Agreement concerning the International Carriage of Dangerous Goods by Road.

ADNR: Regulation for the Carriage of Dangerous Substances on the Rhine

CLP : Classification, Labelling and Packaging

CSA : Chemical Safety Assessment

CSR : Chemical Safety Report

DNEL : Derived No Effect Level.

EINECS : European Inventory of Existing Commercial Chemical Substances.

ELINCS : European List of Notified Chemical Substances

PEC : Predicted Effect Concentration

PEL : Permissible Exposure Limits

PNEC : Predicted No Effect Concentration

R-phrase : Risk phrase

REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals

RID : Regulation Concerning the International Transport of Dangerous Goods by Rail

S-phrase: Safety phrase

WGK : German Water Hazard Class

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Conforms to EU Regulation 1907/2006/EC as amended. - SDSCLP\_GB

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1. Product identifier**

Trade name : TTP90 Part B

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

Use of the Substance/Mixture : Adhesives

<b>1.3 Details of the supplier of the safety data sheet</b> Tough Technology Products Limited 114 Washway Road Sale, Cheshire, M33 7RF. United Kingdom <a href="mailto:sales@ttproducts.com">sales@ttproducts.com</a>	<b>1.4 Emergency telephone number</b> 0044 800 772 0996 (mon-fri: 08.30 - 16.00)  <b>Product Information</b> 0044 800 772 0996
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**SECTION 2: Hazards identification****1. Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Not a hazardous substance or mixture.

**Classification (67/548/EEC, 1999/45/EC)**

Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.

**2. Label elements****Labelling (REGULATION (EC) No 1272/2008)**

Not a hazardous substance or mixture.

**Additional Labelling:**



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Safety data sheet available on request.

May produce an allergic reaction.

Contains: **Piperazine**

### 3. Other hazards

Assessment : PBT substance , vPvB substance - not determined

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous components

Chemical Name	CAS- No. EC- No.	Classificati on (67/548/ EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentrati on [%]
Substances with a workplace exposure limit:				
<b>Talc</b>	<b>14807-96-6</b> 238-877-9			>= 15 - < 25

## SECTION 4: First aid measures

### 1. Description of first aid measures

General advice : First aid is not normally required. If symptoms develop, seek medical attention.

If inhaled : Move to fresh air.  
If symptoms persist, call a physician.  
In case of shortness of breath, give oxygen.

In case of skin contact : Take off contaminated clothing and shoes immediately.  
Wash off immediately with plenty of water.

In case of eye contact : Flush eyes with water at least 15 minutes. Get medical attention if eye irritation develops or persists. Remove contact lenses.

If swallowed : Do not induce vomiting without medical advice.  
Never give anything by mouth to an unconscious person. Consult a physician if necessary.

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Version: 2.0**2. Most important symptoms and effects, both acute and delayed**

Symptoms : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:  
stomach or intestinal upset (nausea, vomiting, diarrhea)  
irritation (nose, throat, airways)  
Cough  
bronchitis  
Headache  
Weakness  
Shortness of breath  
Lack of coordination  
confusion  
Difficulty in breathing  
lung damage seizures  
Convulsions  
Exposure to this product (or a component) may cause an allergic reaction (narrowing of the air passages of the lungs resulting in difficult breathing, tightness in the chest, coughing and wheezing) in some sensitive individuals. Other symptoms of an allergic reaction may include itchy and watery eyes, runny and stuffy nose, sweating, flushing, hives, rapid heart rate, and lowered blood pressure.

Risks : No data available

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

Treatment : No data available

**SECTION 5: Firefighting measures****1. Extinguishing media**

Suitable extinguishing media : ABC powder  
Carbon dioxide (CO<sub>2</sub>) Dry chemical  
Water mist

Unsuitable extinguishing media : Halons

**2. Special hazards arising from the substance or mixture**

Specific hazards during : Do not allow run-off from fire fighting to enter drains or water

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firefighting

courses.

Hazardous combustion  
products: carbon dioxide and carbon monoxide  
halogenated**3. Advice for firefighters**Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.Further information : Keep containers and surroundings cool with water spray.  
Prevent fire extinguishing water from contaminating surface water or the ground water system.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.**SECTION 6: Accidental release measures****1. Personal precautions, protective equipment and emergency procedures**

Personal precautions : Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

**2. Environmental precautions**

Environmental precautions : Prevent further leakage or spillage if safe to do

**3. Methods and materials for containment and cleaning up****4. Reference to other sections**

No data available

**SECTION 7: Handling and storage****1. Precautions for safe handling**Advice on safe handling : Do not breathe vapours or spray mist.  
For personal protection see section 8.  
Avoid exceeding the given occupational exposure limits (see

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section 8).

Smoking, eating and drinking should be prohibited in the application area.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

**2. Conditions for safe storage, including any incompatibilities**

Requirements for storage areas and containers : Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.

Advice on common storage : No special restrictions on storage with other products.

Other data : Stable under recommended storage conditions.

**3. Specific end use(s)**

No data available

**SECTION 8: Exposure controls/personal protection****1. Control parameters**

Components	CAS-No.	Value type	Form of Exposure	Control parameters	Update	Basis
Talc	14807-96-6	TWA	Respirable dust.	1 mg/m <sup>3</sup>	2007	EH40 WEL
Further information:						

**2. Exposure controls engineering measures**

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below level of overexposure (from known, suspected or apparent adverse effects).

**Personal protective equipment**Hand protection : Nitrile rubber  
butyl-rubber

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- Wear resistant gloves such as: Nitrile
- Eye protection : Safety glasses with side-shields
- Skin and body protection : Wear as appropriate:  
Safety shoes
- Hygiene measures : Ensure that eyewash stations and safety showers are close to the workstation location.

**Environmental exposure controls**

- General advice : Prevent further leakage or spillage if safe to do so.

**SECTION 9: Physical and chemical properties****1. Information on basic physical and chemical properties**

- Appearance : liquid
- Colour : black
- Odour : No data available
- Odour Threshold : No data available
- pH : Not applicable
- Freezing point / Melting point : No data available
- Boiling point : No data available
- Flash point : > 100 °C
- Evaporation rate : No data available
- Flammability (solid, gas) : No data available
- Burning rate : No data available
- Lower explosion limit : No data available
- Upper explosion limit : No data available
- Vapour pressure : No data available
- Relative vapour density : No data available
- Relative density : ca. 1,225; 25 °C

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Density : ca. 1,225 g/cm<sup>3</sup>; 25 °C

Water solubility : insoluble

Solubility in other solvents : No data available

Partition coefficient:  
n- octanol/water : No data available

Auto-ignition temperature : No data available

Ignition temperature : No data available

Thermal decomposition : No data available

Viscosity, dynamic : ca. 20.000 mPa.s; 25 °C

Viscosity, kinematic : No data available

Explosive properties : No data available

Oxidizing properties : No data available

**2. Other information**

Bulk density : No data available

**SECTION 10: Stability and reactivity****1. Reactivity**

Hazardous polymerisation does not occur.

**2. Chemical stability**

No hazards to be specially mentioned.

**3. Possibility of hazardous reactions**

Hazardous reactions : Further information: No hazards to be specially mentioned.

: Hazardous polymerisation does not occur.

**4. Conditions to avoid**

Conditions to avoid : heat  
Exposure to moisture

**5. Incompatible materials**



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Materials to avoid : alkalis  
isocyanates  
Strong acids  
Strong oxidizing agents

**6. Hazardous decomposition products**

Hazardous decomposition products : carbon dioxide and carbon monoxide  
halogenated hydrocarbons  
Hydrocarbons

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Product**

Acute oral toxicity : No data available

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

Skin corrosion/irritation : No data available

Serious eye damage/eye irritation : No data available

Respiratory or skin sensitisation : No data available

STOT - repeated exposure : Target Organs: Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans:; central nervous system effects

**Components:**

No data available

**SECTION 12: Ecological information****1. Toxicity****Product:**

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Version: 2.0

No data available

**Components:**

No data available

**2. Persistence and degradability****Product:**

No data available

**Components:**

No data available

**3.**

Bioaccumulation : The bioaccumulation potential cannot be determined.

**Bioaccumulative potential Product:****Components:**

No data available

**4. Mobility in soil****Product:**

No data available

**Components:**

No data available

**5. Results of PBT and vPvB assessment****Product:**

No data available

**Components:**

No data available

**6. Other adverse effects****Product:**

No data available

**Components:**

No data available

**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

Product : Dispose of in accordance with the European Directives on

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waste and hazardous waste.

: Dispose of in accordance with local regulations.

Contaminated packaging : Empty remaining contents.

**SECTION 14: Transport information****1. UN number****ADR:** Not dangerous goods**ADNR:** Not dangerous goods**RID:** Not dangerous goods**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods**2. UN proper shipping****name ADR:** Not dangerous

goods

**ADNR:** Not dangerous goods**RID:** Not dangerous goods**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods**3. Transport hazard****class(es) ADR:** Not

dangerous goods

**ADNR:** Not dangerous goods**RID:** Not dangerous goods**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods**4. Packing group****ADR:** Not dangerous goods**ADNR:** Not dangerous goods**RID:** Not dangerous goods**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not dangerous goods**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not dangerous goods**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not dangerous goods**5. Environmental hazards**

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**ADR:** Not applicable**ADNR:** Not applicable**RID:** Not applicable**INTERNATIONAL MARITIME DANGEROUS GOODS:** Not applicable**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO:** Not applicable**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER:** Not applicable**6. Special precautions for user**

Not applicable

**7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Ship Type: Not applicable

Hazard code(s): Not applicable

Pollutant Category: Not applicable

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

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Directive 96/82/EC does not apply

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China. Inventory of Existing Chemical Substances n (Negative listing)

**2. Chemical Safety Assessment**

No data available

**SECTION 16: Other information****Further information**

Oth  
er  
info  
rma  
tion : The information  
accumulated  
herein is  
believed to be  
accurate

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