



Safety Data Sheet

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name **Total Flex 20 PU**

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

Intended use **One part polyurethane membrane, moisture curing and self-leveling, suitable for construction.**

1.3. Details of the supplier of the safety data sheet

Name: Total Waterproofing Supplies Pty Ltd

Full address: 1/8 Belford Place Cardiff NSW 2285

District and Country: Australia

e-mail address of the competent person

responsible for the Safety Data Sheet

sales@totalwaterproofingsupplies.com.au

1.4. Emergency telephone number +61 2 4940 3000

For urgent inquiries refer to

Poisons Information Centre: 13 11 26

Police & Fire Brigade: 000

SECTION 2. Hazards identification.

2.1. Classification of the substance or mixture.

The product is classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

2.1.1. Regulation 1272/2008 (CLP) and following amendments and adjustments.

Hazard classification and indication:

Respiratory sensitization, category 1

H334

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

2.1.2. 67/548/EEC and 1999/45/EC Directives and following amendments and adjustments.

Danger Symbols:

Xn

R phrases:

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The full wording of the Risk (R) and hazard (H) phrases is given in section 16 of the sheet.

2.2. Label elements.

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.



Signal words: Danger

Hazard statements:

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
EUH204 Contains isocyanates. May produce an allergic reaction.

Precautionary statements:

P284 [In case of inadequate ventilation] wear respiratory protection.
P304+P340 IF INHALED: remove person to fresh air and keep comfortable for breathing.
P342+P311 If experiencing respiratory symptoms: call a POISON CENTER / doctor / . . .

Contains: TRIS(NONYLPHENYL)PHOSPHITE
DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES.
DIPHENYLMETHANE-4,4'-DIISOCYANATE

2.3. Other hazards.

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

SECTION 3. Composition/information on ingredients.

3.1. Substances.

Information not relevant.

3.2. Mixtures.

Contains:

Identification.	Conc. %.	Classification 67/548/EEC.	Classification 1272/2008 (CLP).
AROMATIC HYDROCARBONS, C8 (BENZENE <0.01%) CAS. 90989-38-1 EC. 292-694-9 INDEX. - Reg. no. 01-2119486136-34	0 - 0,5	R10, Xn R20/21, Xn R48/20, Xn R65, Xi R36/37/38	Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335
REACTIVE MIXTURE OF ETHYLBENZENE, m-XYLENE AND p-XYLENE CAS. - EC. 905-562-9 INDEX. - Reg. no. 01-2119555267-33	0 - 0,5	R10, Xn R20/21, Xn R48/20, Xn R65, Xi R36/37/38	Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335
XYLENE (BENZENE <0.01%)			



CAS. 1330-20-7	0 - 0,5	R10, Xn R20/21, Xn R48/20, Xn R65, Xi R36/37/38, Note C	Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Note C
EC. 215-535-7			
INDEX. 601-022-00-9			
Reg. no. 01-2119488216-32-XXXX			
DIPHENYLMETHANE-4,4'-DIISOCYANATE			
CAS. 101-68-8	0,9 - 1	Carc. Cat. 3 R40, Xn R20, Xn R42/43, Xn R48/20, Xi R36/37/38, Note 2 C	Carc. 2 H351, Acute Tox. 4 H332, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317, Note 2 C
EC. 202-966-0			
INDEX. 615-005-00-9			
Reg. no. 01-2119457014-47-XXXX			
DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES.			
CAS. 9016-87-9	0,4 - 0,45	Carc. Cat. 3 R40, Xn R20, Xn R42/43, Xn R48/20, Xi R36/37/38	Carc. 2 H351, Acute Tox. 4 H332, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317
EC. -			
INDEX. -			
2-(3,5-DI-TERT-PENTYL-2-HYDROXYPHENYL) BENZOTRIAZOLE			
CAS. 25973-55-1	0,15 - 0,2	R53, Xn R48/22	STOT RE 2 H373, Aquatic Chronic 4 H413
EC. 247-384-8			
INDEX. -			
Reg. no. 01-2119955688-17-xxxx			
BIS(2,2,6,6-TETRAMETHYL-4-PIPERIDYL)SEBACATE			
CAS. 52829-07-9	0,15 - 0,2	Xi R36, N R51/53	Eye Irrit. 2 H319, Aquatic Chronic 2 H411
EC. 258-207-9			
INDEX. -			
Reg. no. 01-2119537297-32-XXXX			
TRIS(NONYLPHENYL)PHOSPHITE			
CAS. 26523-78-4	0,15 - 0,2	Xi R43, N R50/53	Skin Sens. 1 H317, Aquatic Chronic 1 H410
EC. 247-759-6			
INDEX. -			
Reg. no. 01-2119520601-54-XXXX			

Note: Upper limit is not included into the range.

The full wording of the Risk (R) and hazard (H) phrases is given in section 16 of the sheet.

T+ = Very Toxic(T+), T = Toxic(T), Xn = Harmful(Xn), C = Corrosive(C), Xi = Irritant(Xi), O = Oxidizing(O), E = Explosive(E), F+ = Extremely Flammable(F+), F = Highly Flammable(F), N = Dangerous for the Environment(N)

SECTION 4. First aid measures.

4.1. Description of first aid measures.

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.



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

For symptoms and effects caused by the contained substances, see chap. 11.

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

Information not available.

SECTION 5. Firefighting measures.

5.1. Extinguishing media.

SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture.

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters.

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures.

6.1. Personal precautions, protective equipment and emergency procedures.

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions.

The product must not penetrate into the sewer system or come into contact with surface water or ground water.



6.3. Methods and material for containment and cleaning up.

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
Make sure the leakage site is well aired. Check incompatibility for container material in section 7. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections.

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage.

7.1. Precautions for safe handling.

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities.

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

SECTION 8. Exposure controls/personal protection.

8.1. Control parameters.

Regulatory References:

AUS	Österreich	Grenzwerteverordnung 2011 - GKV 2011
BEL	Belgique	AR du 11/3/2002. La liste est mise à jour pour 2010
CHE	Suisse / Schweiz	Valeurs limites d'exposition aux postes de travail 2012. / Grenzwerte am Arbeitsplatz
CYP	Κύπρος	Κ.Δ.Π. 268/2001; Κ.Δ.Π. 55/2004; Κ.Δ.Π. 295/2007; Κ.Δ.Π. 70/2012
DEU	Deutschland	MAK-und BAT-Werte-Liste 2012
ESP	España	INSHT - Límites de exposición profesional para agentes químicos en España 2015
FIN	Suomi	HTP-arvot 2012. Haitallisiksi tunnetut pitoisuudet - Sosiaali- ja terveystieteiden tutkimuskeskus julkaisu 2012:5
FRA	France	JORF n°0109 du 10 mai 2012 page 8773 texte n° 102
GRB	United Kingdom	EH40/2005 Workplace exposure limits
GRC	Ελλάδα	ΕΦΗΜΕΡΙΣ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ -ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 19 - 9 Φεβρουαρίου 2012
HRV	Hrvatska	NN13/09- Institut za sigurnost Zagreb
IRL	Éire	Code of Practice Chemical Agent Regulations 2011
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81



NLD	Nederland	Databank of the social and Economic Concil of Netherlands (SER) Values, AF 2011:18 ROZPORZĄDZENIE MINISTRA PRACY I POLITYKI SPOŁECZNEJ z dnia 16 grudnia 2011r Occupational Exposure Limit Values, AF 2011:18 Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC. ACGIH 2014
POL	Polska	
SWE	Sverige	
EU	OEL EU	
	TLV-ACGIH	

DIISONONYL PHTHALATE

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
WEL	GRB	5			
OEL	IRL	5			

XYLENE (BENZENE <0.01%)

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
MAK	AUS	221	50	442	100	SKIN.
VLEP	BEL	221	50	442	100	SKIN.
TLV	CYP	221	50	442	100	SKIN.
AGW	DEU	440	100	880	200	SKIN.
MAK	DEU	440	100	880	200	SKIN.
VLA	ESP	221	50	442	100	SKIN.
HTP	FIN	220	50	440	100	SKIN.
VLEP	FRA	221	50	442	100	SKIN.
WEL	GRB	220	50	441	100	
TLV	GRC	435	100	650	150	
GVI	HRV	221	50	442	100	SKIN.
MDK	HRV	440	100	655	150	
OEL	IRL	221	50	442	100	SKIN.
TLV	ITA	221	50	442	100	SKIN.
OEL	NLD	210		442		SKIN.
NDS	POL	100				
MAK	SWE	221	50	442	100	SKIN.
OEL	EU	221	50	442	100	SKIN.
TLV-ACGIH		434	100	651	150	

Predicted no-effect concentration - PNEC.

Normal value in fresh water	0,327	mg/l
Normal value in marine water	0,327	mg/l
Normal value for fresh water sediment	12,46	mg/kg
Normal value for marine water sediment	12,46	mg/kg
Normal value for water, intermittent release	0,327	mg/l
Normal value of STP microorganisms	6,58	mg/l
Normal value for the terrestrial compartment	2,31	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers.			Chronic systemic	Effects on workers			
	Acute local	Acute systemic	Chronic local		Acute local	Acute systemic	Chronic local	Chronic systemic
Oral.			VND	1,6 mg/kg/d				



Inhalation.	VND	14,8 mg/m3	289 mg/kg	VND	VND	77 mg/m3
Skin.	VND	108 mg/kg/d			VND	180 mg/kg/d

REACTIVE MIXTURE OF ETHYLBENZENE, m-XYLENE AND p-XYLENE

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm

TLV-ACGIH		434	100	651	150
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Predicted no-effect concentration - PNEC.

Normal value in fresh water	0,327	mg/l
Normal value in marine water	0,327	mg/l
Normal value for fresh water sediment	12,46	mg/kg
Normal value for marine water sediment	12,46	mg/kg
Normal value for water, intermittent release	0,327	mg/l
Normal value for the terrestrial compartment	2,31	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers. Acute local	Acute systemic	Chronic local	Chronic systemic	Effects on workers Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation.	VND	174 mg/m3	VND	14,8 mg/m3	VND	289 mg/m3	VND	77 mg/m3
Skin.			VND	108 mg/kg			VND	180 mg/kg

AROMATIC HYDROCARBONS, C8 (BENZENE <0.01%)

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm

TLV-ACGIH		434	100	651	150
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Predicted no-effect concentration - PNEC.

Normal value in fresh water	0,327	mg/l
Normal value in marine water	0,327	mg/l
Normal value for fresh water sediment	12,46	mg/kg
Normal value for marine water sediment	12,46	mg/kg
Normal value for water, intermittent release	0,327	mg/l
Normal value for the terrestrial compartment	2,31	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers. Acute local	Acute systemic	Chronic local	Chronic systemic	Effects on workers Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation.			14,8 mg/m3	VND			VND	77 mg/m3
Skin.							VND	180 mg/kg

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm

MAK	AUS	0,05	0,005	0,1	0,01	
VLEP	BEL	0,052	0,005			
AGW	DEU	0,05		0,05		
MAK	DEU	0,05		0,05		INHAL.
MAK	DEU	0,05		0,05		SKIN.
VLA	ESP	0,052	0,005			
VLEP	FRA	0,1	0,01	0,2	0,02	
TLV	GRC	0,2		0,2		



MDK	HRV	0,005	55		
OEL	IRL	0,02		0,07	
NDS	POL	0,05		0,2	
MAK	SWE	0,03	0,002	0,05 (C)	0,005 (C)
TLV-ACGIH		0,051	0,005		

Predicted no-effect concentration - PNEC.

Normal value in fresh water	1,01	mg/l
Normal value in marine water	0,11	mg/l
Normal value of STP microorganisms	1,01	mg/l
Normal value for the terrestrial compartment	1,01	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers.				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation.					0,1 mg/m3	0,1 mg/m3	0,05 mg/m3	0,05 mg/m3
Skin.					VND	50 mg/kg/d		

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES.

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
OEL	ITA		0,005		
TLV-ACGIH			0,005		

ETHYL ACETATE

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
MAK	AUS	1050	300	2100	600
VLEP	BEL	1461	400		
VEL	CHE	1400	400	2800	800
MAK	CHE	1400	400	2800	800
AGW	DEU	1500	400	3000	800
MAK	DEU	1500	400	3000	800
VLA	ESP	1460	400		
HTP	FIN	1100	300	1800	500
VLEP	FRA	1400	400		
WEL	GRB		200		400
TLV	GRC	1400	400		
GVI	HRV		200		400
MDK	HRV	1400	400		
OEL	IRL		200		400
OEL	NLD	550		1100	
NDS	POL	200		600	
MAK	SWE	500	150	1100	300
TLV-ACGIH		1441	400		

Predicted no-effect concentration - PNEC.

Normal value in fresh water	0,26	mg/l
Normal value in marine water	0,026	mg/l
Normal value for fresh water sediment	1,25	mg/kg
Normal value for marine water sediment	0,125	mg/kg
Normal value for water, intermittent release	1,65	mg/l



Normal value of STP microorganisms 650 mg/l
Normal value for the terrestrial compartment 0,24 mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers.				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral.			VND	4,5 mg/kg				
Inhalation.	734 mg/m3	734 mg/m3	367 mg/m3	367 mg/m3	1468 mg/m3	1468 mg/m3	734 mg/m3	734 mg/m3
Skin.			VND	37 mg/kg			VND	63 mg/kg

2,2 - DIMORPHOLINODIETHYL ETHER

Predicted no-effect concentration - PNEC.

Normal value in fresh water 0,1 mg/l
Normal value in marine water 0,01 mg/l
Normal value for fresh water sediment 8,2 mg/kg
Normal value for marine water sediment 0,82 mg/kg
Normal value for water, intermittent release 1 mg/l
Normal value of STP microorganisms 100 mg/l
Normal value for the terrestrial compartment 1,58 mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers.				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral.			VND	0,5 mg/kg/d				
Inhalation.			VND	1,8 mg/m3			VND	7,28 mg/m3
Skin.			VND	0,5 mg/kg/d			VND	1 mg/kg/d

BIS(2,2,6,6-TETRAMETHYL-4-PIPERIDYL)SEBACATE

Predicted no-effect concentration - PNEC.

Normal value in fresh water 0,005 mg/l
Normal value in marine water 0,0005 mg/l
Normal value for fresh water sediment 8,02 mg/kg
Normal value for marine water sediment 0,802 mg/kg
Normal value of STP microorganisms 1 mg/l
Normal value for the terrestrial compartment 1,6 mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers.				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral.	VND	1 mg/kg	VND	1 mg/kg				
Inhalation.	VND	1,4 mg/m3	VND	1,4 mg/m3	VND	5,6 mg/m3	VND	5,6 mg/m3
Skin.	VND	1 mg/kg	VND	1 mg/kg	VND	2 mg/kg	VND	2 mg/kg

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

8.2. Exposure controls.

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

HAND PROTECTION

Protect your hands with work gloves, category III (ref. standard EN 374). For the final choice of material you need to assess the type of use. In case of contact for the short term or as protection against splashes, use gloves made of butyl rubber or nitrile (0.4mm thickness, permeation time <30 min.). In the event of continued exposure use Viton gloves (0.4mm thickness, permeation time >30 min.). Contaminated gloves should be removed.



SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION

In case of exceeding the threshold value (eg, TLV-TWA) of the substance or one or more of the substances present in the product, it is advisable to wear a mask with filter type A for organic vapors, the class (1, 2 or 3) must be chosen according to the limit concentration of use (1000, 5000 or 10000 ppm) (ref. standard EN 14387).

ENVIRONMENTAL EXPOSURE CONTROLS.

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

SECTION 9. Physical and chemical properties.

9.1. Information on basic physical and chemical properties.

Appearance	paste
Colour	various
Odour	typical
Odour threshold.	Not available.
pH.	Not available.
Melting point / freezing point.	Not available.
Initial boiling point.	Not available.
Boiling range.	Not available.
Flash point.	> 61 °C.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Lower inflammability limit.	Not available.
Upper inflammability limit.	Not available.
Lower explosive limit.	Not available.
Upper explosive limit.	Not available.
Vapour pressure.	Not available.
Vapour density	Not available.
Relative density.	1,49 Kg/l
Solubility	Not available.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature.	> 250 °C.
Decomposition temperature.	Not available.
Viscosity	30000 - 50000 cps
Explosive properties	Not available.
Oxidising properties	Not available.

9.2. Other information.

VOC (Directive 1999/13/EC) :	2,00 % - 29,80 g/litre.
VOC (volatile carbon) :	Not available.

SECTION 10. Stability and reactivity.

10.1. Reactivity.

There are no particular risks of reaction with other substances in normal conditions of use.



DIPHENYLMETHANE-4,4'-DIISOCYANATE: decomposes at 274°C. With water it develops carbon dioxide and forms an insoluble solid polymer. Consequently any wet material recovered must be stored in open containers.

10.2. Chemical stability.

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions.

The vapours may also form explosive mixtures with the air.

DIPHENYLMETHANE-4,4'-DIISOCYANATE: can react dangerously with: alcohols, amines, ammonia, sodium hydroxide, acids, water and strong bases and acids.

10.4. Conditions to avoid.

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

10.5. Incompatible materials.

Information not available.

10.6. Hazardous decomposition products.

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

DIPHENYLMETHANE-4,4'-DIISOCYANATE: nitric oxides, carbon oxides, hydrogen cyanide.

SECTION 11. Toxicological information.

11.1. Information on toxicological effects.

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

Inhalation of this product causes sensitization, which may then give rise to a series of inflammatory episodes, most of all characterized by obstruction and affecting the respiratory system. Sometimes, sensitization phenomena arise together with evident rhinitis and asthma. Damages to the respiratory system depend on the inhaled quantity, on the product concentration in the working environment and on the exposure time.

This product contains isocyanates.

Producer's specifications are as follows:

Ready-to-use products containing isocyanates may irritate mucosae, particularly those of the respiratory system, and may give rise to hypersensitivity reactions. Vapour or aerosol inhalation may lead to sensitization.

Please take all the measures used for all solvent-containing products while manipulating isocyanate-containing products. Avoid vapour and aerosol inhalation.

People with allergic or asthmatic precedents or subject to respiratory disorders should not handle products containing isocyanates.

This product contains sensitizing substance/s and may cause allergic reactions.

DIPHENYLMETHANE-4,4'-DIISOCYANATE: risk of sensitization even at concentrations lower than TLV in case of spray working.



2-(3,5-DI-TERT-PENTYL-2-HYDROXYPHENYL) BENZOTRIAZOLE
LD50 (Oral).> 2000 mg/kg ratto

TRIS(NONYLPHENYL)PHOSPHITE
LD50 (Oral).> 15000 mg/kg Rattus sp.
LD50 (Dermal).> 2000 mg/kg Oryctolagus sp.

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES.
LD50 (Oral).> 10000 mg/kg Rattus sp.
LD50 (Dermal).> 9400 mg/kg Oryctolagus sp.
LC50 (Inhalation).0,31 mg/l/4h Rattus sp.

DIPHENYLMETHANE-4,4'-DIISOCYANATE
LD50 (Oral).> 2000 mg/kg Rattus sp.
LD50 (Dermal).> 9400 mg/kg Oryctolagus sp.
LC50 (Inhalation).2,24 mg/l Rattus sp.

AROMATIC HYDROCARBONS, C8 (BENZENE <0.01%)
LD50 (Oral).5627 mg/kg Mus sp.
LD50 (Dermal).> 5000 ml/kg Oryctolagus sp.
LC50 (Inhalation).6700 ppm Rattus sp.

BIS(2,2,6,6-TETRAMETHYL-4-PIPERIDYL)SEBACATE
LD50 (Oral).> 2000 mg/kg Rattus sp.
LD50 (Dermal).> 2000 mg/kg Rattus sp.
LC50 (Inhalation).5 mg/l Rattus sp.

REACTIVE MIXTURE OF ETHYLBENZENE, m-XYLENE AND p-XYLENE
LD50 (Oral).5627 mg/kg Mus sp.
LD50 (Dermal).> 5000 ml/kg Oryctolagus sp.
LC50 (Inhalation).6700 ppm/4h Rattus sp.

XYLENE (BENZENE <0.01%)
LD50 (Oral).5627 mg/kg Rattus sp.
LD50 (Dermal).> 5000 mg/kg Oryctolagus sp.
LC50 (Inhalation).20 mg/l/4h Rattus sp.

SECTION 12. Ecological information.

12.1. Toxicity.

2-(3,5-DI-TERT-PENTYL-2-HYDROXYPHENYL)
BENZOTRIAZOLE
LC50 - for Fish.

> 100 mg/l/96h

TRIS(NONYLPHENYL)PHOSPHITE
LC50 - for Fish.

7,1 mg/l/96h Danio rerio

DIPHENYLMETHANE
DIISOCYANATE, ISOMERS
AND HOMOLOGUES.
LC50 - for Fish.

> 1000 mg/l/96h Danio rerio

EC50 - for Algae / Aquatic
Plants.

> 1640 mg/l/72h Scenedesmus subspicatus



Chronic NOEC for Crustacea.	> 10 mg/l Daphnia magna
DIPHENYLMETHANE-4,4'-DIISOCYANATE LC50 - for Fish.	> 1000 mg/l/96h Danio rerio
Chronic NOEC for Algae / Aquatic Plants.	1640 mg/l Desmodesmus subspicatus
AROMATIC HYDROCARBONS, C8 (BENZENE <0.01%) LC50 - for Fish.	2,6 mg/l/96h Salmo gairdneri
EC10 for Algae / Aquatic Plants.	1,9 mg/l/72h Selastrum capricornutum
BIS(2,2,6,6-TETRAMETHYL-4-PIPERIDYL)SEBACATE LC50 - for Fish.	4,4 mg/l/96h Brachydanio rerio
EC50 - for Algae / Aquatic Plants.	1,9 mg/l/72h Scenedesmus subspicatus
REACTIVE MIXTURE OF ETHYLBENZENE, m-XYLENE AND p-XYLENE LC50 - for Fish.	2,6 mg/l/96h Salmo gairdneri
EC10 for Algae / Aquatic Plants.	1,9 mg/l/72h Selastrum capricornutum
XYLENE (BENZENE <0.01%) LC50 - for Fish.	2,6 mg/l/96h
EC50 - for Algae / Aquatic Plants.	4,36 mg/l/72h

12.2. Persistence and degradability.

TRIS(NONYLPHENYL)PHOSPHITE
NOT rapidly biodegradable.

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES.
NOT rapidly biodegradable.

BIS(2,2,6,6-TETRAMETHYL-4-PIPERIDYL)SEBACATE
NOT rapidly biodegradable.

12.3. Bioaccumulative potential.



Information not available.

12.4. Mobility in soil.

Information not available.

12.5. Results of PBT and vPvB assessment.

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

12.6. Other adverse effects.

Information not available.

SECTION 13. Disposal considerations.

13.1. Waste treatment methods.

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information.

14.1. UN number.

Not applicable.

14.2. UN proper shipping name.

Not applicable.

14.3. Transport hazard class(es).

Not applicable.

14.4. Packing group.



Not applicable.

14.5. Environmental hazards.

Not applicable.

14.6. Special precautions for user.

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code.

Information not relevant.

SECTION 15. Regulatory information.

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

Seveso category. None.

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006.

Product.

Point. 3

Contained substance.

Point.	52	DIISONONYL PHTHALATE
Point.	56	DIPHENYLMETHAN E-4,4'- DIISOCYANATE Reg. no.: 01- 2119457014-47- XXXX

Substances in Candidate List (Art. 59 REACH).

2-(3,5-DI-TERT-PENTYL-2-HYDROXYPHENYL) BENZOTRIAZOLE

Reg. no.: 01-2119955688-17-xxxx

4-NONYLPHENOL, BRANCHED

Reg. no.: 01-2119510715-45-XXXX

Substances subject to authorisation (Annex XIV REACH).



None.

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None.

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

None.

Healthcare controls.

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

German regulation on the classification of substances hazardous to water (VwVwS 2005).

WGK 2: Hazard to waters

15.2. Chemical safety assessment.

No chemical safety assessment has been processed for the mixture and the substances it contains.

SECTION 16. Other information.

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 3	Flammable liquid, category 3
Carc. 2	Carcinogenicity, category 2
Acute Tox. 4	Acute toxicity, category 4
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Resp. Sens. 1	Respiratory sensitization, category 1
Skin Sens. 1	Skin sensitization, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 4	Hazardous to the aquatic environment, chronic toxicity, category 4
H226	Flammable liquid and vapour.
H351	Suspected of causing cancer.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H304	May be fatal if swallowed and enters airways.



H373	May cause damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
EUH204	Contains isocyanates. May produce an allergic reaction.

Text of risk (R) phrases mentioned in section 2-3 of the sheet:

R10	FLAMMABLE.
R20	HARMFUL BY INHALATION.
R20/21	HARMFUL BY INHALATION AND IN CONTACT WITH SKIN.
R36	IRRITATING TO EYES.
R36/37/38	IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
Carc. Cat. 3	Carcinogenicity, category 3.
R40	LIMITED EVIDENCE OF A CARCINOGENIC EFFECT.
R42	MAY CAUSE SENSITIZATION BY INHALATION.
R42/43	MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.
R43	MAY CAUSE SENSITISATION BY SKIN CONTACT.
R48/20	HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED EXPOSURE THROUGH INHALATION.
R48/22	HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED EXPOSURE IF SWALLOWED.
R50/53	VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.
R51/53	TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.
R53	MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.
R65	HARMFUL: MAY CAUSE LUNG DAMAGE IF SWALLOWED.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration



- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Directive 1999/45/EC and following amendments
 2. Directive 67/548/EEC and following amendments and adjustments
 3. Regulation (EU) 1907/2006 (REACH) of the European Parliament
 4. Regulation (EU) 1272/2008 (CLP) of the European Parliament
 5. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
 6. Regulation (EU) 453/2010 of the European Parliament
 7. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
 8. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
 9. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
 10. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
 11. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
- The Merck Index. - 10th Edition
 - Handling Chemical Safety
 - Niosh - Registry of Toxic Effects of Chemical Substances
 - INRS - Fiche Toxicologique (toxicological sheet)
 - Patty - Industrial Hygiene and Toxicology
 - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
 - ECHA website

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.