SAFETY DATA SHEET

SYNTEKO 8181

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

1.1 Product identifier

Product name : SYNTEKO 8181

Product code : 8181

Product description : Water-based dispersion adhesive

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

Identified uses

Wood Adhesives

1.3 Details of the supplier of the safety data sheet

CASCO ADHESIVES (ASIA) PTE LTD
14 Sungei Kadut Way
Singapore 728788, Singapore
Phone: +65 6762 2088

hse.adhesives@akzonobel.com

1.4 Emergency telephone number

Telephone number : +65 6762 2088

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Directive 1999/45/EC [DPD]

The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : Not classified.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Risk phrases : This product is not classified according to EU legislation.

Safety phrases : Not applicable.

2.3 Other hazards

Other hazards which do not result in classification : No known significant effects or critical hazards.

SECTION 3: Composition/information on ingredients

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Check for and remove any contact lenses. Rinse with plenty of running water. Get medical attention if irritation occurs.

Inhalation : Move exposed person to fresh air. Get medical attention if irritation occurs.

Skin contact : Wash contaminated skin with soap and water. Get medical attention if irritation develops.

Ingestion : Wash out mouth with water. Get medical attention if symptoms occur.

Protection of first-aiders : Put on appropriate personal protective equipment (see Section 8).

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Because of the large amount of water contained in the product, it may be combustible only after partial or complete dehydration. Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : Water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : No specific fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters : Not applicable.

Special protective equipment for fire-fighters : Be sure to use an approved/certified respirator or equivalent.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Use suitable protective equipment (section 8).

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also Section 8 for additional information on hygiene measures.

6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

6.3 Methods and materials for containment and cleaning up

Small spill : Absorb with an inert material and place in an appropriate waste disposal container.

Large spill : Stop leak if without risk. Move containers from spill area. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

: See Section 1 for emergency contact information.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

: Keep container tightly closed. Keep container in a cool, well-ventilated area. Keep away from heat and direct sunlight.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Derived effect levels

No DELs available.

Predicted effect concentrations

No PECs available.

8.2 Exposure controls

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures : Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin protection

Hand protection : PVC gloves.

Body protection : No special protection is required.

Respiratory protection : No special protection is required.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Colour : Light brown.

Odour : Faint odour.

Odour threshold : Not available.

pH : 5,5 to 6,5

Melting point/freezing point : Not available.

Initial boiling point and boiling range : Not available.

Flash point : Closed cup: >100°C [Product does not sustain combustion.]

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Burning time : Not applicable.

Burning rate : Not applicable.

Upper/lower flammability or explosive limits : Not available.

Vapour pressure : Not available.

Vapour density : Not available.

Density : 1,2 g/cm^3

Solubility(ies) : Easily soluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Dynamic: 5000 to 18000 mPa·s

Explosive properties : Not available.

Oxidising properties : Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : No specific data.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Sensitisation

Skin : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary : No known significant effects or critical hazards.

12.2 Persistence and degradability

Conclusion/Summary : No known significant effects or critical hazards.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects

: No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. The product is not regarded as hazardous waste. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

European waste catalogue (EWC)

Waste code	Waste designation
08 04 10	waste adhesives and sealants other than those mentioned in 08 04 09

SECTION 14: Transport information

	ADR/RID	ADN/ADNR	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
14.6 Special precautions for user	-	-	-	-
Additional information	-	-	-	

SECTION 14: Transport information

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not applicable.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : All components are listed or exempted.

SECTION 16: Other information

Abbreviations and acronyms : DPD = Dangerous Preparations Directive [1999/45/EC]
PBT = Persistent, Bioaccumulative and Toxic
vPvB = Very Persistent and Very Bioaccumulative
DNEL = Derived No Effect Level
PNEC = Predicted No Effect Concentration
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

Date of issue/ Date of revision : 2012-03-28.

Date of previous issue : No previous validation.

Version : 1

Indicates information that has changed from previously issued version.

SAFETY DATA SHEET

HARDENER 1999

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

1.1 Product identifier

Product name : HARDENER 1999

Product code : 1999

Product description : Hardener

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

Identified uses

Hardener

1.3 Details of the supplier of the safety data sheet

CASCO ADHESIVES (ASIA) PTE LTD
14 Sungei Kadut Way
Singapore 728788, Singapore
Phone: +65 6762 2088

hse.adhesives@akzonobel.com

1.4 Emergency telephone number

Telephone number : +65 6762 2088

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

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

Classification according to Directive 67/548/EEC [DSD]

Carc. Cat. 3; R40
Xn; R20, R48/20
Xi; R36/37/38
R42/43

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :

Signal word : Danger

SECTION 2: Hazards identification

Hazard statements : Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing cancer.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure. (respiratory tract)

Precautionary statements

Prevention : Use personal protective equipment as required. Do not breathe vapour or spray. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.

Response : IF ON SKIN: Take off contaminated clothing and wash before reuse. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. If eye irritation persists: Get medical advice/attention.

Hazardous ingredients : diphenylmethanediisocyanate, isomeres and homologues

Supplemental label elements : Contains isocyanates. May produce an allergic reaction.

2.3 Other hazards

Other hazards which do not result in classification : Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be exposed to any process in which this product is used.

SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Classification 67/548/EEC	Classification Regulation (EC) No. 1272/2008 [CLP]	Type
diphenylmethanediisocyanate, isomeres and homologues	CAS: 9016-87-9	75-100	Carc. Cat. 3; R40 Xn; R20, R48/20 Xi; R36/37/38 R42/43 See Section 16 for the full text of the R-phrases declared above.	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 See Section 16 for the full text of the H statements declared above.	[A]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[A] Constituent
[B] Impurity
[C] Stabilising additive

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Check for and remove any contact lenses. Rinse with plenty of running water. Get medical attention.

Inhalation : Move exposed person to fresh air. Keep person warm and at rest. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In the event of any complaints or symptoms, avoid further exposure. If not breathing, give artificial respiration. If breathing is difficult, administer oxygen. Get medical attention.

Skin contact : Wash contaminated skin with soap and water. Continue to rinse for at least 10 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. In the event of any complaints or symptoms, avoid further exposure. Get medical attention if irritation occurs.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention.

Protection of first-aiders : Put on appropriate personal protective equipment (see Section 8).

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : No specific fire or explosion hazard.

SECTION 5: Firefighting measures

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters : Not applicable.

Special protective equipment for fire-fighters : Be sure to use an approved/certified respirator or equivalent.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

6.3 Methods and materials for containment and cleaning up

Small spill : Absorb with an inert material and place in an appropriate waste disposal container. Contaminated absorbent material may pose the same hazard as the spilt product.

Large spill : Stop leak if without risk. Move containers from spill area. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Prevent entry into sewers, water courses, basements or confined areas. Contaminated absorbent material may pose the same hazard as the spilt product. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. The product reacts slowly with water, resulting in the production of carbon dioxide. In closed containers, pressure build-up could result in distortion, expansion and, in extreme cases, bursting of the container. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

SECTION 7: Handling and storage

7.2 Conditions for safe storage, including any incompatibilities : Keep from any possible contact with water. Keep container tightly closed. Keep container in a cool, well-ventilated area. Keep away from heat and direct sunlight.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Diphenylmethane-4,4'-diisocyanate	**Factories Order (PEL) (Singapore, 2/2006).** PEL (long term): 0,005 ppm 8 hours. PEL (long term): 0,051 mg/m³ 8 hours.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Derived effect levels

No DELs available.

Predicted effect concentrations

No PECs available.

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Ensure that eyewash stations and safety showers are close to the workstation location. Wash contaminated clothing before reusing.

Eye/face protection : Tightly-fitting goggles.

Skin protection

Hand protection : Butyl rubber gloves. Nitrile gloves. Neoprene gloves.

Body protection : Protective clothing.

Respiratory protection : Wear appropriate respirator when ventilation is inadequate. Type A2 / P2.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Colour : Brownish. Clear.

Odour : Faint odour.

Odour threshold : Not available.

pH : Not applicable.

Melting point/freezing point : Not available.

SECTION 9: Physical and chemical properties

Initial boiling point and boiling range	:	>300°C
Flash point	:	Open cup: >200°C
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Not available.
Burning time	:	Not applicable.
Burning rate	:	Not applicable.
Upper/lower flammability or explosive limits	:	Not available.
Vapour pressure	:	Not available.
Vapour density	:	Not available.
Density	:	1,2 g/cm^3
Solubility(ies)	:	Insoluble in the following materials: cold water.
Partition coefficient: n-octanol/water	:	Not applicable.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
Viscosity	:	Dynamic: 150 to 450 mPa·s
Explosive properties	:	Not available.
Oxidising properties	:	Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : Keep away from water or moist air.

10.5 Incompatible materials : Water, alcohols, amines, acids, alkalis.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
diphenylmethanediisocyanate, isomeres and homologues	LD50 Dermal	Rabbit	>9400 mg/kg	-
	LD50 Oral	Rat	49 g/kg	-

Conclusion/Summary : Not available.

Irritation/Corrosion

Sensitisation

SECTION 11: Toxicological information

Product/ingredient name	Route of exposure	Species	Result
diphenylmethanediisocyanate, isomeres and homologues	Respiratory Respiratory	Rat Guinea pig	Sensitising Sensitising

Skin : May cause an allergic skin reaction.

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

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
diphenylmethanediisocyanate, isomeres and homologues	Category 3	Not determined	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
diphenylmethanediisocyanate, isomeres and homologues	Category 2	Not determined	respiratory tract

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Potential chronic health effects

General : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
diphenylmethanediisocyanate, isomeres and homologues	Acute EC50 >1000 mg/l	Daphnia	24 hours
	Acute LC50 >1000 mg/l	Fish	96 hours
	Chronic EC50 >1620 mg/l	Algae	72 hours
	Chronic NOEC >10 mg/l	Daphnia	21 days
	Acute LC50 >1000 mg/l	Fish	96 hours
	Chronic NOEC >10 mg/l	Daphnia	21 days

Conclusion/Summary : No known significant effects or critical hazards.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
diphenylmethanediisocyanate, isomeres and homologues	OECD 302C Inherent Biodegradability: Modified MITI Test (II)	0 % - 28 days	-	-

Conclusion/Summary : Not readily biodegradable.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
diphenylmethanediisocyanate, isomeres and homologues	-	-	Not readily

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : No.

vPvB : No.

12.6 Other adverse effects

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal should be in accordance with applicable regional, national and local laws and regulations. Liquid residues and packages contaminated with those shall be treated as hazardous waste. Dried/cured product, with or without packing material, may be handled as normal industrial waste. Consult the local waste contractor and the local authority about the best way of handling cured adhesive.

Hazardous waste : Yes.

European waste catalogue (EWC)

Waste code	Waste designation
08 05 01*	waste isocyanates

SECTION 14: Transport information

	ADR/RID	ADN/ADNR	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
14.6 Special precautions for user	-	-	-	-
Additional information	-	-	-	

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not applicable.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : All components are listed or exempted.

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
diphenylmethanediisocyanate, isomeres and homologues	Carc. 2, H351	-	-	-
4,4'-methylenediphenyl diisocyanate	Carc. 2, H351	-	-	-

SECTION 16: Other information

Abbreviations and acronyms : DPD = Dangerous Preparations Directive [1999/45/EC]
PBT = Persistent, Bioaccumulative and Toxic
vPvB = Very Persistent and Very Bioaccumulative
DNEL = Derived No Effect Level
PNEC = Predicted No Effect Concentration
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

Full text of abbreviated H statements :

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.

Full text of classifications [CLP/GHS] :

Acute Tox. 4, H332	ACUTE TOXICITY: INHALATION - Category 4
Carc. 2, H351	CARCINOGENICITY - Category 2
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Resp. Sens. 1, H334	RESPIRATORY SENSITIZATION - Category 1
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1, H317	SKIN SENSITIZATION - Category 1
STOT RE 2, H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) [respiratory tract] - Category 2
STOT SE 3, H335	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Respiratory tract irritation] - Category 3

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

Full text of classifications [DSD/DPD] : Carc. Cat. 3 - Carcinogen category 3
Xn - Harmful
Xi - Irritant

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Indicates information that has changed from previously issued version.