MULTI PURPOSE ADHESIVE (MULTI POWER GLUE)310ML.

Version	Revision Date:	SDS Number:	Date of last issue: 28.08.2017
4.4	28.11.2017	609175-00009	Date of first issue: 25.01.2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : MULTI PURPOSE ADHESIVE (MULTI POWER GLUE)310ML.

Product code : 0893100112

Manufacturer or supplier's details

Company : Würth Gulf FZE
Jebel Ali Free Zone-South

Address : POBox 17036
Dubai

Telephone : 00971 4 880 9991

Emergency telephone number : Emergency telephone. Advisory office in case of poisoning +9714 8834229. Telephone number of the company in case of emergencies +97150 5646023

E-mail address : prodsafe@wuerth.com

Telefax : 00971 4 880 9255

Recommended use of the chemical and restrictions on use

Recommended use : Adhesives

2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Inhalation) : Category 5

Skin corrosion/irritation : Category 2

Serious eye damage/eye irritation : Category 2A

Respiratory sensitisation : Category 1

Skin sensitisation : Category 1

Carcinogenicity : Category 2

Specific target organ toxicity - single exposure : Category 3

Specific target organ toxicity - repeated exposure (Inhalation) : Category 2 (Respiratory system)

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H333 May be 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 (Respiratory system) through prolonged or repeated exposure if inhaled.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284 Wear respiratory protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
4,4'-Diphenylmethane diisocyanate	101-68-8	>= 10 - < 20
Benzene, 1,1'-methylenebis[isocyanato-, homo-polymer	39310-05-9	>= 5 - < 10
Propylene carbonate	108-32-7	>= 1 - < 5
Dibutyltin dilaurate	77-58-7	>= 0.1 - < 0.25

4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
Get medical attention.

In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention.

If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention.
Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed : Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May be harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficul-

ties if inhaled.
May cause respiratory irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure if inhaled.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.

Notes to physician : Treat symptomatically and supportively.

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : None known.

Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Silicon oxides
Carbon oxides
Metal oxides
Hydrogen cyanide (hydrocyanic acid)
Isocyanates
Nitrogen oxides (NOx)

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions : Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).

Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

7. HANDLING AND STORAGE

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use with local exhaust ventilation.

Advice on safe handling : Do not get on skin or clothing.
Do not breathe vapours or spray mist.
Do not swallow.
Do not get in eyes.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep container tightly closed.
Keep away from water.
Protect from moisture.
Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage : Keep in properly labelled containers.
Store locked up.
Keep tightly closed.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.

Materials to avoid : Do not store with the following product types:
Strong oxidizing agents
Organic peroxides
Explosives
Gases

Recommended storage temperature : 15 - 25 °C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
4,4'-Diphenylmethane diisocyanate	101-68-8	TWA	0.005 ppm	ACGIH
Dibutyltin dilaurate	77-58-7	TWA	0.1 mg/m3 (Tin)	ACGIH
		STEL	0.2 mg/m3 (Tin)	ACGIH

Engineering measures : Processing may form hazardous compounds (see section 10).
Minimize workplace exposure concentrations.
Use with local exhaust ventilation.

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Combined particulates and organic vapour type

Hand protection
- Material : Nitrile rubber
- Break through time : >= 480 min
- Glove thickness : >= 0.35 mm
- Directive : DIN EN 374
- Wearing time : 240 min

Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment:
Safety goggles

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place.
When using do not eat, drink or smoke.

Wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	paste
Colour	:	coloured
Odour	:	characteristic
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	ca. 1.52 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	> 260 °C
Viscosity		
Viscosity, dynamic	:	67,000 - 93,000 mPa.s (25 °C)
Viscosity, kinematic	:	No data available

Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle size	:	Not applicable

10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Can react with strong oxidizing agents. Hazardous decomposition products will be formed upon contact with water or humid air.
Conditions to avoid	:	Exposure to moisture
Incompatible materials	:	Oxidizing agents Water
Hazardous decomposition products	:	No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation Skin contact Ingestion Eye contact

Acute toxicity

May be harmful if inhaled.

Product:

Acute inhalation toxicity	:	Acute toxicity estimate: 7.07 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method

Components:

4,4'-Diphenylmethane diisocyanate:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg Assessment: The substance or mixture has no acute oral toxicity Remarks: Based on data from similar materials
Acute inhalation toxicity	:	LC50 (Rat): > 2.24 mg/l Exposure time: 1 h Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Remarks: Based on data from similar materials

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 2.24 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Remarks: Based on data from similar materials

Propylene carbonate:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Dibutyltin dilaurate:

Acute oral toxicity : LD50 (Rat): 2,071 mg/kg

Acute inhalation toxicity : Assessment: Corrosive to the respiratory tract.

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation

Causes skin irritation.

Components:

4,4'-Diphenylmethane diisocyanate:

Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation
Remarks: Based on data from similar materials

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:

Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation
Remarks: Based on data from similar materials

Propylene carbonate:

Species: Rabbit
Result: No skin irritation

Dibutyltin dilaurate:

Result: Corrosive after 1 to 4 hours of exposure

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

4,4'-Diphenylmethane diisocyanate:

Result: Irritation to eyes, reversing within 7 days
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:

Result: Irritation to eyes, reversing within 7 days
Remarks: Based on data from similar materials

Propylene carbonate:

Species: Rabbit
Method: OECD Test Guideline 405
Result: Irritation to eyes, reversing within 21 days

Dibutyltin dilaurate:

Species: Rabbit
Result: Irreversible effects on the eye

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

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

Components:

4,4'-Diphenylmethane diisocyanate:

Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Result: positive

Assessment: Probability or evidence of skin sensitisation in humans

Exposure routes: Inhalation
Species: Rat

Result: positive
Remarks: Based on data from similar materials

Assessment: Probability of respiratory sensitisation in humans based on animal testing

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:

Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Result: positive
Remarks: Based on data from similar materials

Assessment: Probability or evidence of skin sensitisation in humans

Exposure routes: Inhalation
Species: Rat
Result: positive
Remarks: Based on data from similar materials

Assessment: Probability of respiratory sensitisation in humans based on animal testing

Dibutyltin dilaurate:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: positive
Remarks: Based on data from similar materials

Assessment: Probability or evidence of skin sensitisation in humans

Germ cell mutagenicity

Not classified based on available information.

Components:

4,4'-Diphenylmethane diisocyanate:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Result: negative
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Rat Application Route: inhalation (dust/mist/fume) Method: OECD Test Guideline 474 Result: negative

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Result: negative

Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Rat Application Route: inhalation (dust/mist/fume) Method: OECD Test Guideline 474 Result: negative

Propylene carbonate:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Result: negative
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Intraperitoneal injection Result: negative

Dibutyltin dilaurate:

Genotoxicity in vitro	:	Test Type: Chromosome aberration test in vitro Result: positive Remarks: Based on data from similar materials Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative Test Type: In vitro mammalian cell gene mutation test Result: negative Remarks: Based on data from similar materials
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Ingestion Method: OECD Test Guideline 474 Result: positive Remarks: Based on data from similar materials
Germ cell mutagenicity - Assessment	:	Positive result(s) from in vivo somatic cell mutagenicity tests supported by positive results from in vitro mutagenicity assays or chemical structure activity relationship to known germ cell mutagens

Carcinogenicity

Suspected of causing cancer.

Components:

4,4'-Diphenylmethane diisocyanate:

Species: Rat
Application Route: inhalation (dust/mist/fume)
Exposure time: 2 Years

Result: positive
Remarks: Based on data from similar materials

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:

Species: Rat
Application Route: inhalation (dust/mist/fume)
Exposure time: 2 Years
Result: positive
Remarks: Based on data from similar materials

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Propylene carbonate:

Species: Mouse
Application Route: Skin contact
Exposure time: 2 Years
Result: negative

Reproductive toxicity

Not classified based on available information.

Components:

4,4'-Diphenylmethane diisocyanate:

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (dust/mist/fume)
Result: negative
Remarks: Based on data from similar materials

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (dust/mist/fume)
Result: negative
Remarks: Based on data from similar materials

Propylene carbonate:

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat, female
Application Route: Ingestion
Result: negative

Dibutyltin dilaurate:

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test

Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 421
Result: positive
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: positive
Remarks: Based on data from similar materials

Reproductive toxicity - Assessment : Clear evidence of adverse effects on sexual function and fertility, based on animal experiments., Clear evidence of adverse effects on development, based on animal experiments.

STOT - single exposure

May cause respiratory irritation.

Components:

4,4'-Diphenylmethane diisocyanate:

Assessment: May cause respiratory irritation.

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:

Assessment: May cause respiratory irritation.
Remarks: Based on data from similar materials

Dibutyltin dilaurate:

Exposure routes: Ingestion
Target Organs: thymus
Assessment: Shown to produce significant health effects in animals at concentrations of 300 mg/kg bw or less.

STOT - repeated exposure

May cause damage to organs (Respiratory system) through prolonged or repeated exposure if inhaled.

Components:

4,4'-Diphenylmethane diisocyanate:

Exposure routes: inhalation (dust/mist/fume)
Target Organs: Respiratory system
Assessment: Shown to produce significant health effects in animals at concentrations of >0.02 to 0.2 mg/l/6h/d.

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:

Exposure routes: inhalation (dust/mist/fume)
Target Organs: Respiratory system
Assessment: Shown to produce significant health effects in animals at concentrations of >0.02 to

0.2 mg/l/6h/d.

Dibutyltin dilaurate:

Exposure routes: Ingestion
Target Organs: thymus
Assessment: Shown to produce significant health effects in animals at concentrations of 10 mg/kg bw or less.

Repeated dose toxicity

Components:

4,4'-Diphenylmethane diisocyanate:

Species: Rat
NOAEL: 0,2 mg/m3
LOAEL: 1 mg/m3
Application Route: inhalation (dust/mist/fume)
Exposure time: 2 yr
Remarks: Based on data from similar materials

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:

Species: Rat
NOAEL: 0,2 mg/m3
LOAEL: 1 mg/m3
Application Route: inhalation (dust/mist/fume)
Exposure time: 2 yr
Remarks: Based on data from similar materials

Propylene carbonate:

Species: Rat
NOAEL: > 5,000 mg/kg
Application Route: Ingestion
Exposure time: 90 Days

Dibutyltin dilaurate:

Species: Rat
NOAEL: 0.3 - 0.4 mg/kg
Application Route: Ingestion
Exposure time: 28 Days
Remarks: Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

4,4'-Diphenylmethane diisocyanate:

Toxicity to fish	:	LC50 (Oryzias latipes (Orange-red killifish)): > 3,000 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 129.7 mg/l Exposure time: 24 h Method: OECD Test Guideline 202
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): > 1,640 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials NOEC (Desmodesmus subspicatus (green algae)): 1,640 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC50: > 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 Remarks: Based on data from similar materials

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:

Toxicity to fish	:	LC50 (Oryzias latipes (Orange-red killifish)): > 3,000 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 129.7 mg/l Exposure time: 24 h Method: OECD Test Guideline 202
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): > 1,640 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials

		NOEC (Desmodesmus subspicatus (green algae)): 1,640 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC50: > 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 Remarks: Based on data from similar materials

Propylene carbonate:

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): > 1,000 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1,000 mg/l Exposure time: 48 h
Toxicity to algae	:	ErC50 (Desmodesmus subspicatus (green algae)): > 900 mg/l Exposure time: 72 h
Toxicity to microorganisms	:	EC50 (Pseudomonas putida): 25,619 mg/l Exposure time: 16 h

Dibutyltin dilaurate:

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 0.1 - 1 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): > 1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to microorganisms	:	EC50: > 1,000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

Persistence and degradability

Components:

4,4'-Diphenylmethane diisocyanate:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302
Remarks: Based on data from similar materials

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302
Remarks: Based on data from similar materials

Propylene carbonate:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 87.7 %
Exposure time: 29 d
Method: OECD Test Guideline 301B

Dibutyltin dilaurate:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 23 %
Exposure time: 39 d
Method: OECD Test Guideline 301F

Bioaccumulative potential

Components:

4,4'-Diphenylmethane diisocyanate:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 200

Partition coefficient: n-octanol/water : log Pow: 4.51

Benzene, 1,1'-methylenebis[isocyanato-, homopolymer:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 200
Remarks: Based on data from similar materials

Partition coefficient: n-octanol/water : log Pow: 4.51
Remarks: Based on data from similar materials

Propylene carbonate:

Partition coefficient: n-octanol/water	:	log Pow: -0.41

Dibutyltin dilaurate:

Bioaccumulation	:	Species: Fish Bioconcentration factor (BCF): 812 Remarks: Based on data from similar materials
Partition coefficient: n-octanol/water	:	log Pow: 4.44

Mobility in soil

No data available

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Dispose of in accordance with local regulations.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal. If not otherwise specified: Dispose of as unused product.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

UN/ID No.	:	UN 3334
Proper shipping name	:	Aviation regulated liquid, n.o.s. (4,4'-Diphenylmethane diisocyanate, Benzene, 1,1'-methylenebis[isocyanato-, homopolymer)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964

IMDG-Code

Not regulated as a dangerous good

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

Not applicable for product as supplied.

15. REGULATORY INFORMATION

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

16. OTHER INFORMATION

Further information

Sources of key data used to compile the Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Con-

trol Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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