

SAFETY DATA SHEET

According to regulation (EC) No. 1907/2006

SOUPLETHANE ISOCYANATE

Version 5.0 : Revision date (english version) : 12.04.2024 (cancel and replaces the SDS of 23.09.2019)



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

1.1 Product identifier

SOUPLETHANE ISOCYANATE

Index No : Not applied

CE No : Not applied

CAS No : Not applied

REACH Registration No : The product is a mixture, no need to be REACH registered.

Product description :

Composition: mixture

Origin: organic, isocyanates – MDI (methyl diisocyanate)

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

Use of the substance/mixture : Component of a Polyurethane System.

The identified use of the MDI covered by this SDS is the use of MDI mixed with a polyol exclusively by casting to form a polyurethane, without exposure of MDI in the open air, without spraying and therefore without formation of aerosols nor MDI vapors.

1.3 Details of the supplier of the safety data sheet.

Company : KEMICA COATINGS

Address : Z.A. DU BOIS GUESLIN

28630 MIGNIERES

FRANCE

Telephone : +33 (0)2 37 26 39 87 +33 (0)2 37 26 33 56

E-mail address of the person responsible for SDS : info@kemica-coatings.com

1.4 Emergency telephone number

France : ORFILA

Telephone : +33 (0)1 45 42 59 59

Supplier Tel : +33 2 37 26 33 56 (CET : 8h30am –12h, 13h30 –17h)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Respiratory sensitisation, Category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.

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Specific target organ toxicity - single exposure, Category 3, Respiratory system

H335: May cause respiratory irritation.

Specific target organ toxicity - repeated exposure, Category 2

H373: May cause damage to organs through prolonged or repeated exposure.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements :

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
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.

Precautionary statements :

Prevention:	
P201	Obtain special instructions before use.
P260	Do not breathe mist or vapours.
P264	Wash skin thoroughly after handling.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.

Hazardous components which must be listed on the label:

Isocyanic acid, polymethylenepolyphenylene ester

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate

4,4'-methylenediphenyl diisocyanate

Additional Labelling:

As from 24 August 2023 adequate training is required before industrial or professional use.

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2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Mixtures

Chemical nature : Isocyanates

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Isocyanic acid, polymethylenepolyphenylene ester	9016-87-9 Polymer	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 (Respiratory system) STOT RE 2; H373	>= 70 - < 90
Reaction mass of 4,4'- methylenediphenyl diisocyanate and o-(p- isocyanatobenzyl)phenyl isocyanate	- -01-2119457015-45	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 (Respiratory system) STOT RE 2; H373 (Respiratory system)	>= 10 - < 20
4,4'-methylenediphenyl diisocyanate	101-68-8 202-966-0 615-005-00-9 01-2119457014-47	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 (Respiratory system) STOT RE 2; H373 (Respiratory system)	>= 5 - < 10

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		specific concentration limit Eye Irrit. 2; H319 ≥ 5 % STOT SE 3; H335 ≥ 5 % Skin Irrit. 2; H315 ≥ 5 % Resp. Sens. 1; H334 ≥ 0,1 %	
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For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice	:	Move out of dangerous area. Do not leave the victim unattended. Get medical attention immediately if symptoms occur. Show this safety data sheet to the doctor in attendance.
Protection of first-aiders	:	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If potential for exposure exists refer to Section 8 for specific personal protective equipment. First Aid responders should pay attention to self-protection and use the recommended protective clothing
If inhaled	:	If breathed in, move person into fresh air. Call a physician or poison control centre immediately. Keep patient warm and at rest. Keep respiratory tract clear.
In case of skin contact	:	In case of contact, immediately flush skin with soap and plenty of water. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before reuse. Thoroughly clean shoes before reuse. Call a physician if irritation develops or persists. An MDI study has demonstrated that a polyglycol-based skin cleanser (such as D-Tam™, PEG-400) or corn oil may be more effective than soap and water.

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If breathing is difficult, give oxygen.
If breathing is irregular or stopped, administer artificial respiration.
If unconscious, place in recovery position and seek medical advice.
Consult a physician immediately if symptoms such as shortness of breath or asthma are observed.
A hyper-reactive response to even minimal concentrations of diisocyanates may develop in sensitised persons.
The exposed person may need to be kept under medical surveillance for 48 hours.
LC50 (rat) : ca. 490 mg/m³ (4 hours) : using experimentally produced respirable aerosol having aerodynamic diameter <5microns.
Methods used to generate the exposure concentrations in the animal studies use extreme laboratory conditions and does not represent actual exposure conditions of the material in the workplace, storage, transportation or expected use on the market due to the very low vapor pressure. Therefore, these test results cannot be used to for hazard classification of the material. Rather, an acute toxicity estimate is calculated based on weight of evidence and expert judgement and is used to justify a modified classification for acute inhalation toxicity.

- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If easy to do, remove contact lens, if worn. Protect unharmed eye.
Keep eye wide open while rinsing.
Seek medical advice.
- If swallowed : Gently wipe or rinse the inside of the mouth with water.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.
Keep respiratory tract clear.
Keep at rest.
If a person vomits when lying on his back, place him in the recovery position.
Never give anything by mouth to an unconscious person.
Take victim immediately to hospital.
If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Severe allergic skin reactions, bronchospasm and anaphylactic shock
- Risks : This product is a respiratory irritant and potential respiratory sensitizer: repeated inhalation of vapour or aerosol at levels above the occupational exposure limit could cause respiratory sensitisation.
Symptoms may include irritation to the eyes, nose, throat and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing.
The onset of the respiratory symptoms may be delayed for several hours after exposure.
A hyper-reactive response to even minimal concentrations of MDI may develop in sensitised persons.

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4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Foam
Carbon dioxide (CO₂)
Dry powder

Unsuitable extinguishing media : Water may be used if no other available and then in copious quantities. Reaction between water and hot isocyanate may be vigorous.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
The pressure in sealed containers can increase under the influence of heat.
Exposure to decomposition products may be a hazard to health.

Hazardous combustion products : Combustion products may include: carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbons and HCN. In the event of extreme heat (>500 degrees C), aniline is suspected of being formed.

SOUPLETHANE ISOCYANATEVersion 5.0 : Revision date (english version) : 12.04.2024 (cancel and replaces the SDS of 23.09.2019)**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Immediately evacuate personnel to safe areas. Use personal protective equipment.
If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.
Ensure adequate ventilation.
Keep people away from and upwind of spill/leak.
Only qualified personnel equipped with suitable protective equipment may intervene.
For additional precautions and advice on safe handling, see section 7.
Never return spills in original containers for re-use.
Make sure that there is a sufficient amount of neutralizing/absorbent material near the storage area.
The danger areas must be delimited and identified using relevant warning and safety signs.
Treat recovered material as described in the section "Disposal considerations".
For disposal considerations see section 13.

6.2 Environmental precautions

Environmental precautions : Do not allow uncontrolled discharge of product into the environment.
Do not allow material to contaminate ground water system.
Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
Local authorities should be advised if significant spillages cannot be contained.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Clean-up methods - small spillage
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Clean contaminated surface thoroughly.
Sweep up or vacuum up spillage and collect in suitable container for disposal.

Neutralize small spillages with decontaminant.
The compositions of liquid decontaminants are given in Section 16.
Remove and dispose of residues. Clean-up methods - large spillage If the product is in its solid form:
Spilled MDI flakes should be picked up carefully.

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The area should be vacuum cleaned to remove remaining dust particles completely.

If the product is in its liquid form:

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Leave to react for at least 30 minutes.

Shovel into open-top drums for further decontamination. Wash the spillage area with water.

Test atmosphere for MDI vapour.

Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

See Section 1 for emergency contact information., For personal protection see section 8., For disposal considerations see section 13., The compositions of liquid decontaminants are given in Section 16.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures	Ensure that eyewash stations and safety showers are close to the workstation location.
Local/Total ventilation	Use only with adequate ventilation.
Advice on safe handling	<p>For personal protection see section 8. Avoid formation of aerosol.</p> <p>Do not breathe vapours or spray mist. Do not breathe vapours/dust.</p> <p>Do not swallow.</p> <p>Do not get in eyes or mouth or on skin. Do not get on skin or clothing.</p> <p>Avoid exposure - obtain special instructions before use.</p> <p>Smoking, eating and drinking should be prohibited in the application area.</p>

Provide sufficient air exchange and/or exhaust in work rooms.

Keep container closed when not in use.

Open drum carefully as content may be under pressure.

Dispose of rinse water in accordance with local and national regulations.

Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Industrial use of aprotic polar solvents for cleaning can release hazardous primary aromatic amines (>0.1%)

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

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Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash face, hands and any exposed skin thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labelled containers. Observe label precautions. Protect from moisture. Electrical installations / working materials must comply with the technological safety standards. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Advice on common storage : For incompatible materials please refer to Section 10 of this SDS.

Recommended storage temperature : 15 - 25 °C

Further information on storage stability : Stable under normal conditions.

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters Occupational

Exposure Limits

Components	CAS-No.	Value type (From of exposure)	Control parameters	Basis
4,4'-methylenediphenyl diisocyanate	101-68-8	VLCT (VLE)	0,02 ppm 0,2 mg/m3	FR VLE
Further information	Carcinogenic category 2 - Possibly carcinogenic to humans, Risk for sensitisation of the airways, Indicative exposure limits			
		VME	0,01 ppm 0,1 mg/m3	FR VLE
Further information	Carcinogenic category 2 - Possibly carcinogenic to humans, Risk for sensitisation of the airways, Indicative exposure limits			

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**SOUPLETHANE ISOCYANATE****Version 5.0** : Revision date (english version) : 12.04.2024 (cancel and replaces the SDS of 23.09.2019)**Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:**

Substance name	End Use	Exposure routes	Potential health effects	Value
4,4'-methylenediphenyl diisocyanate	Workers	Inhalation	Long-term local effects	0,05 mg/m3
	Workers	Inhalation	Acute local effects	0,1 mg/m3
	Consumers	Inhalation	Long-term local effects	0,025 mg/m3
	Consumers	Inhalation	Acute local effects	0,05 mg/m3
Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	Workers	Inhalation	Long-term local effects	0,05 mg/m3
	Workers	Inhalation	Acute local effects	0,1 mg/m3
	Consumers	Inhalation	Long-term local effects	0,025 mg/m3
	Consumers	Inhalation	Acute local effects	0,05 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
4,4'-methylenediphenyl diisocyanate	Fresh water	3,7 µg/l
	Remarks:Assessment Factors	
	Freshwater - intermittent	37 µg/l
	Remarks:Assessment Factors	
	Marine water	0,37 µg/l
	Remarks:Assessment Factors	
	Fresh water sediment	11,7 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Marine sediment	1,17 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Soil	2,33 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl	Freshwater - intermittent	3,7 µg/l

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isocyanate		
	Remarks:Assessment Factors	
	Fresh water	37 µg/l
	Remarks:Assessment Factors	
	Marine water	0,37 µg/l
	Remarks:Assessment Factors	
	Fresh water sediment	11,7 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Marine sediment	1,17 mg/kg dry weight (d.w.)
	Remarks:Equilibrium method	
	Soil	2,33 mg/kg
	Remarks:Equilibrium method	

8.2 Exposure controls

Personal protective equipment

Eye 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.

Chemical splash goggles.

Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.

Please follow all applicable local/national requirements when selecting protective measures for a specific workplace.

Ensure that eyewash stations and safety showers are close to the workstation location.

Hand protection

Remarks

: Protective gloves should be worn when handling freshly made polyurethane products to avoid contact with trace residual materials which may be hazardous in contact with skin.

Use chemical resistant gloves classified under Standard EN374: protective gloves against chemicals and microorganisms. Examples of glove materials that might provide suitable protection include: Butyl rubber, Chlorinated polyethylene, Polyethylene, Ethyl vinyl alcohol copolymers laminated ("EVAL"), Polychloroprene (Neoprene*), Nitrile/butadiene rubber ("nitrile" or "NBR"), Polyvinyl chloride ("PVC" or "vinyl"), Fluoroelastomer (Viton*).

When prolonged or frequently repeated contact may occur, a glove with protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN374) is recommended.

When only brief contact is expected, a glove with protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN374) is recommended.

Notice: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all requisite workplace factors such as, but

not limited to : other chemicals that may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), as well as instructions/specifications provided by

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- the glove supplier The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. By industrial use of aprotic polar solvents for cleaning : Butyl rubber (0.7mm), Nitrile rubber (0.4mm), Chloroprene (0.5mm)
- Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Recommended:
Overall (preferably heavy cotton) or Tyvek-Pro Tech 'C' , Tyvek Pro 'F' disposable coverall.
- Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.
Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
In emergency, non-routine and unknown exposure situations, including confined space entries, a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied air respirator (SAR) with auxiliary self-contained air supply, should be used.
- Protective measures : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Ensure that eye flushing systems and safety showers are located close to the working place.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Physical state : liquid
- Colour : Clear, brown
- Odour : No data is available on the product itself.
- Odour Threshold : No data is available on the product itself.
- pH : substance/mixture reacts with water
- Melting point/freezing point : No data is available on the product itself.
- Boiling point : No data is available on the product itself.

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Flash point	: 220 °C Method: closed cup
Flammability (solid, gas)	: No data is available on the product itself.
Upper explosion limit / Upper flammability limit	: No data is available on the product itself.
Lower explosion limit / Lower flammability limit	: No data is available on the product itself.
Vapour pressure	: No data is available on the product itself.
Relative vapour density	: No data is available on the product itself.
Relative density	: 1,23 (25 °C)
Density	: 1,23 g/cm3 (25 °C)
Solubility(ies)	
Water solubility	: No data is available on the product itself.
Solubility in other solvents	: No data is available on the product itself.
Partition coefficient: n-octanol/water	: No data is available on the product itself.
Auto-ignition temperature	: No data is available on the product itself.
Decomposition temperature	: No data is available on the product itself.
Viscosity	
Viscosity, dynamic	: 85 mPa.s (25 °C)

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Reaction with water (moisture) produces CO₂-gas.
Exothermic reaction with materials containing active hydrogen groups.
The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of the reaction partners is good or is supported by stirring or by the presence of solvents.

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MDI is insoluble with, and heavier than water and sinks to the bottom but reacts slowly at the interface.
A solid water-insoluble layer of polyurea is formed at the interface by liberating carbon dioxide gas.

10.4 Conditions to avoid

Conditions to avoid : Extremes of temperature and direct sunlight.
Exposure to air or moisture over prolonged periods.

10.5 Incompatible materials

Materials to avoid : Acids
Amines
Bases
Metals
water

10.6 Hazardous decomposition products

Combustion products may include: carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbons and HCN. In the event of extreme heat (>500 degrees C), aniline is suspected of being formed.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product:

Acute inhalation toxicity : Assessment: The substance/mixture is not toxic on inhalation as defined by dangerous goods regulations.
Remarks: Methods used to generate the exposure concentrations in the animal studies use extreme laboratory conditions and does not represent actual exposure conditions of the material in the workplace, storage, transportation or expected use on the market due to the very low vapor pressure. Therefore, these test results cannot be used to for hazard classification of the material. Rather, an acute toxicity estimate is calculated based on weight of evidence and expert judgement and is used to justify a modified classification for acute inhalation toxicity.

Acute toxicity estimate: 1,5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist Method:
Calculation method

Components:

Isocyanic acid, polymethylenepolyphenylene ester:

Acute oral toxicity : LD50 (Rat, male): > 10 000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male and female): 0,49 mg/l

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Exposure time: 4 h
Test atmosphere: dust/mist Method:
OECD Test Guideline 403
Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rabbit, male and female): > 9 400 mg/kg
Method: OECD Test Guideline 402

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate:

Acute oral toxicity : LD50 (Rat, male and female): > 2 000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat, male): 368 mg/m³
Test atmosphere: dust/mist
Assessment: The component/mixture is moderately toxic after short term inhalation.
Remarks: Information given is based on data obtained from similar substances.

LC50 (Rat, female): 559 mg/m³ Test atmosphere: dust/mist
Assessment: The component/mixture is moderately toxic after short term inhalation.
Remarks: Information given is based on data obtained from similar substances.

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2 000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Information given is based on data obtained from similar substances.

4,4'-methylenediphenyl diisocyanate:

Acute inhalation toxicity : LC50 (Rat, male and female): 431.18 mg/m³
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The component/mixture is moderately toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rabbit): > 9 400 mg/kg
Remarks: Information given is based on data obtained from similar substances.

Skin corrosion/irritation

Components:

Isocyanic acid, polymethylenepolyphenylene ester:

Species : Rabbit

Assessment : Irritating to skin.

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Method : OECD Test Guideline 404
Result : Skin irritation

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate:

Species : Rabbit
Assessment : Irritating to skin.
Method : OECD Test Guideline 404
Result : Irritating to skin.
GLP : yes

4,4'-methylenediphenyl diisocyanate:

Species : Rabbit
Assessment : Irritating to skin.
Method : OECD Test Guideline 404
Result : Irritating to skin.

Serious eye damage/eye irritation

Components:

Isocyanic acid, polymethylenepolyphenylene ester:

Species : Rabbit
Assessment : Mild eye irritant
Method : OECD Test Guideline 405
Result : Irritation to eyes, reversing within 7 days

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate:

Species : Rabbit
Assessment : No eye irritation
Method : OECD Test Guideline 405
Result : No eye irritation

Species : Humans
Result : Mild eye irritation

4,4'-methylenediphenyl diisocyanate:

Species : Rabbit
Method : OECD Test Guideline 405
Result : Mild eye irritation

Respiratory or skin sensitisation

Components:

Isocyanic acid, polymethylenepolyphenylene ester:

Exposure routes : Skin
Species : Guinea pig
Method : OECD Test Guideline 406
Result : May cause sensitisation by skin contact.

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Exposure routes	: Respiratory Tract
Species	: Rat
Result	: May cause sensitisation by inhalation.
Assessment	: May cause an allergic skin reaction., May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate:

Exposure routes	: Skin
Species	: Guinea pig
Assessment	: May cause sensitisation by skin contact.
Method	: OECD Test Guideline 406
Result	: May cause sensitisation by skin contact.
Remarks	: Information given is based on data obtained from similar substances.

Exposure routes	: Respiratory Tract
Species	: Guinea pig
Result	: May cause sensitisation by inhalation.
Remarks	: Information given is based on data obtained from similar substances.

4,4'-methylenediphenyl diisocyanate:

Exposure routes	: Skin
Species	: Guinea pig
Assessment	: May cause sensitisation by skin contact.
Method	: OECD Test Guideline 406
Result	: Probability or evidence of skin sensitisation in humans

Test Type	: Local lymph node assay (LLNA)
Exposure routes	: Respiratory Tract
Species	: Guinea pig
Result	: May cause sensitisation by inhalation.

Assessment	: May cause allergy or asthma symptoms or breathing difficulties if inhaled., May cause an allergic skin reaction.
------------	--

Germ cell mutagenicity

Components:

Isocyanic acid, polymethylenepolyphenylene ester:

Genotoxicity in vitro	: Concentration: 200 ug/plate Metabolic activation: with and without metabolic activation Method: Directive 67/548/EEC, Annex, B.13/14 Result: negative
Genotoxicity in vivo	: Application Route: Inhalation Result: Not classified due to inconclusive data. Application Route: Inhalation

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Exposure time: 3 w Dose: 113
mg/m³
Method: OECD Test Guideline 474
Result: negative

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate:

Genotoxicity in vitro : Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Concentration: 200 ug/plate
Metabolic activation: with and without metabolic activation
Method: Directive 67/548/EEC, Annex, B.13/14
Result: negative

Genotoxicity in vivo : Test Type: comet assay
Result: negative
Remarks: Information given is based on data obtained from similar substances.

4,4'-methylenediphenyl diisocyanate:

Genotoxicity in vitro : Test Type: reverse mutation assay
Concentration: 200 ug/plate
Metabolic activation: with and without metabolic activation
Method: Directive 67/548/EEC, Annex, B.13/14
Result: negative

Genotoxicity in vivo : Test Type: Chromosome aberration test in vitro
Species: Rat (male)
Cell type: Somatic
Application Route: Inhalation
Exposure time: 3 Weeks
Dose: 113 mg/m³
Method: OECD Test Guideline 474
Result: negative

Test Type: comet assay
Species: Rat (male)
Cell type: Liver cells
Application Route: inhalation (dust/mist/fume)
Dose: 2.5/4.9/12 mg/m³
Method: OECD Test Guideline 489
Result: negative

Carcinogenicity

Product:

Remarks : Rats have been exposed for two years to a respirable aerosol of polymeric MDI which resulted in a chronic pulmonary irritation at high concentrations. Only at the top level (6 mg/m³), there was a significant incidence of a benign tumour of the lung (adenoma) and one malignant tumour (adenocarcinoma). There were no lung tumours at 1 mg/m³ and no effects at 0.2 mg/m³. Overall, the tumour incidence,

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both benign and malignant, and the number of animals with the tumours were not different from controls. The increased incidence of lung tumours is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung, which occurred throughout the study. In the absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumour formation will occur.

Remarks : Industrial use of aprotic polar solvents for cleaning can release hazardous primary aromatic amines (>0.1%)
Based on animal studies, primary aromatic amines are considered as potential carcinogen to humans. Some of those chemicals are proven carcinogens to humans
Provided the recommended personal protective equipment and hygiene measures are applied, no adverse effects to human health are to be expected

Components:

Isocyanic acid, polymethylenepolyphenylene ester:

Species : Rat, male and female
Application Route : Inhalation
Exposure time : 24 month(s)
Dose : 1 mg/m³
Frequency of Treatment : 5 daily
Method : OECD Test Guideline 453
Result : positive

Carcinogenicity - Assessment : Suspected human carcinogens

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate:

Species : Rat, male and female
Application Route : Inhalation
Exposure time : 24 month(s)
Dose : 1 mg/m³
Frequency of Treatment : 5 daily
Method : OECD Test Guideline 453
Result : negative

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

4,4'-methylenediphenyl diisocyanate:

Species : Rat, female
Application Route : Inhalation
Exposure time : 24 month(s)
Activity duration : 17 h
Dose : 0, 0.2, 0.7, 2.1 mg/m³ mg/m³
Frequency of Treatment : 5 days/week
NOEL : 0,7 mg/m³

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LOAEL : 0,23 mg/m³
Result : positive
Target Organs : Lungs

Carcinogenicity - Assessment : Suspected human carcinogens

Reproductive toxicity

Components:

Isocyanic acid, polymethylenepolyphenylene ester:

Effects on fertility : Species: Rat, male and female
Application Route: Inhalation
Method: OECD Test Guideline 414
Remarks: No significant adverse effects were reported

Effects on foetal development : Species: Rat, male and female
Application Route: Inhalation
General Toxicity Maternal: 4 mg/m³
Method: OECD Test Guideline 414
Result: No teratogenic effects

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate:

Effects on foetal development : Species: Rat, female
Application Route: Inhalation
General Toxicity Maternal: NOAEC: 4 mg/m³
Developmental Toxicity: NOAEC: 4 mg/m³
Method: OECD Test Guideline 414
Result: No teratogenic effects
Remarks: Information given is based on data obtained from similar substances.

4,4'-methylenediphenyl diisocyanate:

Effects on foetal development : Test Type: Pre-natal
Species: Rat, female
Application Route: Inhalation
Dose: 0/1/3/9 mg/m³
Duration of Single Treatment: 10 d
Frequency of Treatment: 7 days/week
General Toxicity Maternal: LOAEL: 9 mg/m³
Developmental Toxicity: NOAEC: 3 mg/m³
Method: OECD Test Guideline 414

Method: OECD Test Guideline 443

STOT - single exposure

Components:

Isocyanic acid, polymethylenepolyphenylene ester:

Exposure routes : Inhalation
Target Organs : Respiratory Tract

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Assessment : May cause respiratory irritation.

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate:

Exposure routes : Inhalation
Target Organs : Respiratory Tract
Assessment : May cause respiratory irritation.

4,4'-methylenediphenyl diisocyanate:

Exposure routes : Inhalation
Target Organs : Respiratory Tract
Assessment : May cause respiratory irritation., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT - repeated exposure Components:

Isocyanic acid, polymethylenepolyphenylene ester:

Assessment : May cause damage to organs through prolonged or repeated exposure.
Remarks : Information given is based on data obtained from similar substances.

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate:

Exposure routes : Inhalation
Target Organs : Respiratory system
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

4,4'-methylenediphenyl diisocyanate:

Exposure routes : Inhalation
Target Organs : Respiratory system
Assessment : May cause damage to organs through prolonged or repeated exposure., The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Repeated dose toxicity

Components:

Isocyanic acid, polymethylenepolyphenylene ester:

Species : Rat, male and female
NOEC : 0,2 mg/m3
Test atmosphere : dust/mist
Exposure time : 2 yr
Number of exposures : 5 d
Method : OECD Test Guideline 453

Species : Rat, male and female

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NOEC : < 4 mg/m³
Test atmosphere : dust/mist
Exposure time : 90 d
Number of exposures : 5 d
Method : OECD Test Guideline 413

Species : Rat, male and female
NOEC : 1 mg/m³
Test atmosphere : dust/mist
Exposure time : 90 d
Number of exposures : 5 d
Method : OECD Test Guideline 413

Species : Rat, male and female
LOEC : 2 mg/m³
Test atmosphere : dust/mist
Exposure time : 14 d
Number of exposures : 5 d

Species : Rat, male and female
LOEC : 1,1 mg/m³
Test atmosphere : dust/mist
Exposure time : 14 d
Number of exposures : 6 h
Method : OECD Test Guideline 412

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate:

Species : Rat, male and female
NOEC : 0,2 mg/m³
Test atmosphere : dust/mist
Exposure time : 2 yr
Number of exposures : 5 d
Method : OECD Test Guideline 453
Remarks : Information given is based on data obtained from similar substances.

4,4'-methylenediphenyl diisocyanate:

Species : Rat, female
LOEC : 0,23 mg/m³
Application Route : Inhalation
Test atmosphere : dust/mist
Exposure time : 2 years 17 h
Number of exposures : 5 days/week
Dose : 0, 0.2, 0.7, 2.1 mg/m³
Method : Chronic toxicity

Aspiration toxicity

No data available

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

Experience with human exposure

No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

Isocyanic acid, polymethylenepolyphenylene ester:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 1 000 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203

LC0 : > 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: 24 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 1 640 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
Test Type: static test
Test substance: Fresh water

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Method: OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: ≥ 10 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 211

Toxicity to soil dwelling organisms : EC50: $> 1\,000$ mg/kg
Exposure time: 336 h
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate:

Toxicity to fish : LL50 (Fish): > 100 mg/l
End point: mortality
Exposure time: 96 h
Test substance: Fresh water
Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3,7 mg/l
Exposure time: 48 h
Test substance: Fresh water
Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae/aquatic plants : ErC50 (algae): > 100 mg/l
Exposure time: 72 h
Test substance: Fresh water

NOELR (algae): > 100 mg/l
Exposure time: 72 h
Test substance: Fresh water

Toxicity to microorganisms : LC50 (activated sludge): $> 1\,000$ mg/l
Exposure time: 14 d
Test substance: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: ≥ 10 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 211

Toxicity to soil dwelling organisms : EC50: $> 1\,000$ mg/kg
Exposure time: 336 h
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207

4,4'-methylenediphenyl diisocyanate:

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Toxicity to fish	: LC50 (Brachydanio rerio (zebrafish)): > 100 mg/l End point: mortality Exposure time: 96 h Test substance: Fresh water Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	: EL50 (Daphnia magna (Water flea)): 9 mg/l Exposure time: 48 h Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 201 GLP: yes Remarks: Information given is based on data obtained from similar substances.
Toxicity to microorganisms	: EC50 (activated sludge): > 1 000 mg/l Exposure time: 3 h Test Type: static test Method: OECD Test Guideline 209
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: \geq 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 211 Remarks: Information given is based on data obtained from similar substances.
Toxicity to soil dwelling organisms	: NOEC: \geq 1 000 mg/kg Exposure time: 336 h Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 222
Plant toxicity	: EC50: >1000 milligram per kilogram Exposure time: 14 d Species: Avena sativa (oats) EC50: >1000 milligram per kilogram Exposure time: 14 d Species: Lactuca sativa (lettuce)

12.2 Persistence and degradability

Components:

Isocyanic acid, polymethylenepolyphenylene ester:

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Biodegradability	: Inoculum: Domestic sewage Concentration: 30 mg/l Result: Not biodegradable Biodegradation: 0 % Exposure time: 28 d Method: Inherent Biodegradability: Modified MITI Test (II)
Stability in water	: Degradation half life (DT50): 0,8 d (25 °C) Method: No information available. Remarks: Fresh water

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate:

Biodegradability	: Result: Not readily biodegradable. Biodegradation: 0 % Exposure time: 28 d Remarks: Information given is based on data on the components and the ecotoxicology of similar products.
Biochemical Oxygen Demand (BOD)	: 77 mg/l Incubation time: 28 d Remarks: Biochemical Oxygen Demand (BOD)
Stability in water	: Degradation half life (DT50): < 5 min (20 °C) pH: 4 - 9 Method: OECD Test Guideline 111 Remarks: Information taken from reference works and the literature.

4,4'-methylenediphenyl diisocyanate:

Biodegradability	: Test Type: aerobic Inoculum: activated sludge, non-adapted Result: Not readily biodegradable. Biodegradation: 0 % Exposure time: 28 d Method: OECD Test Guideline 301F
Stability in water	: Degradation half life (DT50): 20 hrs (25 °C) Remarks: Fresh water

12.3 Bioaccumulative potential

Components:

Isocyanic acid, polymethylenepolyphenylene ester:

Bioaccumulation	: Species: Cyprinus carpio (Carp) Bioconcentration factor (BCF): 200 Remarks: Bioaccumulation is unlikely.
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Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate:

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Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 439
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 4,52
Method: estimated

4,4'-methylenediphenyl diisocyanate:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Exposure time: 28 d
Concentration: 0.08 µg/l
Bioconcentration factor (BCF): 200
Method: OECD Test Guideline 305
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 4,52 (20 °C)
pH: 7
Method: OECD Test Guideline 117

12.4 Mobility in soil

Components:

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate:

Distribution among environmental compartments : Koc: 4,5
Method: QSAR
Remarks: Information taken from reference works and the literature.

4,4'-methylenediphenyl diisocyanate:

Distribution among environmental compartments : Koc: 4,5
Method: QSAR

Stability in soil : Soil temperature: 22 °C
Dissipation time: 24 h
Method: OECD Test Guideline 307

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

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12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Product : Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.
- Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14: Transport information

14.1 UN number or ID number

Not regulated as dangerous goods

14.2 UN proper shipping name

Not regulated as dangerous goods

14.3 Transport hazard class(es)

Not regulated as dangerous goods

14.4 Packing group

Not regulated as dangerous goods

14.5 Environmental hazards

Not regulated as dangerous goods

14.6 Special precautions for user

Not applicable

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

- REACH - List of substances subject to authorisation (Annex XIV) : Not applicable
- REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).
- REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, : Conditions of restriction for the following entries should be

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mixtures and articles (Annex XVII)

considered:
Number on list 3
4,4'-methylenediphenyl diisocyanate
(Number on list 74, 56)
o-(p-isocyanatobenzyl)phenyl
isocyanate (Number on list 74, 56)
Diphenylmethanediisocyanate,
polymeric (Number on list 56)

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Not applicable

Occupational Illnesses (R-461-3, France) : 62

Other regulations:

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

The components of this product are reported in the following inventories:

DSL : All components of this product are on the Canadian DSL

AIIC : On the inventory, or in compliance with the inventory

NZIoC : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

TCSI : On the inventory, or in compliance with the inventory

TSCA : All substances listed as active on the TSCA inventory

Inventories

AICS (Australia), AIIC (Australia), DSL (Canada), IECSC (China), ENCS (Japan), KECI (Korea), NZIOC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States of America (USA))

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15.2 Chemical safety assessment

Chemical Safety Assessments for all substances in this product are either Complete or Not applicable

SECTION 16: Other information

Full text of 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.
H373	: May cause damage to organs through prolonged or repeated exposure if inhaled.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Carc.	: Carcinogenicity
Eye Irrit.	: Eye irritation
Resp. Sens.	: Respiratory sensitisation
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
STOT RE	: Specific target organ toxicity - repeated exposure
STOT SE	: Specific target organ toxicity - single exposure
FR VLE	: France. Occupational Exposure Limits (INRS)
FR VLE / VME	: Time Weighted Average
FR VLE / VLCT (VLE)	: Short Term Exposure Limit

Further information

Other information	: Liquid decontaminants (percentages by weight or volume) : Decontaminant 1 : *- sodium carbonate : 5 - 10 % *- liquid detergent : 0.2 - 2 % *- water : to make up to 100 % Decontaminant 2 : *- concentrated ammonia solution : 3 - 8 % *- liquid detergent : 0.2 - 2 % *- water : to make up to 100 % Decontaminant 1 reacts slower with diisocyanates but is more environmentally friendly than decontaminant 2. Decontaminant 2 contains ammonia. Ammonia presents health hazards. (See supplier safety information.)
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Classification of the mixture:

Acute Tox. 4	H332
Skin Irrit. 2	H315
Eye Irrit. 2	H319

Classification procedure:

Calculation method
Calculation method
Calculation method

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Resp. Sens. 1	H334	Calculation method
Skin Sens. 1	H317	Calculation method
Carc. 2	H351	Calculation method
STOT SE 3	H335	Calculation method
STOT RE 2	H373	Calculation method

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Advice for the reader

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THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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