Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878 and to Annex II to UK REACH

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

1.1. Product identifier

Code:	**0430019P**
Product name	**SYNTECH HAG ECO COMP.A**
UFI :	**PU21-C0FJ-2005-9DQ9**

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

Intended use	**Hydro-expansive polyurethane resin, solvent-free, semi-flexible**

1.3. Details of the supplier of the safety data sheet

Name	**AZICHEM SRL**
Full address	**Via G. Gentile 16/A**
District and Country	**46044 Goito (Mantova)** **Italia**
	Tel. 0376604185
e-mail address of the competent person responsible for the Safety Data Sheet	**laboratorio@azichem.com**

1.4. Emergency telephone number

For urgent inquiries refer to	**Osp. Pediatrico Bambino Gesù ROMA: 06 68593726** **Az. Osp. Univ. Foggia FOGGIA: 800183459** **Az. Osp. "A. Cardarelli" NAPOLI: 081-5453333** **Policlinico "Umberto I" ROMA: 06-49978000** **Policlinico "A. Gemelli" ROMA: 06-3054343** **Az. Osp. "Careggi" U.O. Tossicologia Medica FIRENZE: 055-7947819** **Centro Nazionale di Informazione Tossicologica PAVIA: 0382-24444** **Osp. Niguarda Ca' Granda MILANO: 02-66101029** **Azienda Ospedaliera Papa Giovanni XXII BERGAMO: 800883300** **Azienda Ospedaliera Integrata VERONA: 800011858**

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Carcinogenicity, category 2	H351	Suspected of causing cancer.
Acute toxicity, category 4	H332	Harmful if inhaled.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Respiratory sensitization, category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.

SECTION 2. Hazards identification ... / >>

2.2. Label elements

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

Hazard pictograms:

Signal words: Danger

Hazard statements:

H351	Suspected of causing cancer.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
EUH204	Contains isocyanates. May produce an allergic reaction.

Precautionary statements:

P261	Avoid breathing dust / fume / gas / mist / vapours / spray.
P280	Wear protective gloves/ protective clothing / eye protection / face protection.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER / doctor / . . .
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P201	Obtain special instructions before use.
P308+P313	IF exposed or concerned: Get medical advice / attention.

Contains: Reaction mass of 4,4´- methylenediphenyl diisocyanate and o-(p- isocyanatobenzyl) phenyl isocyanate
DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES
4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS

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

2.3. Other hazards

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

The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification		x = Conc. %	Classification (EC) 1272/2008 (CLP)
DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES			
INDEX		74 ≤ x < 78	**Carc. 2 H351, Acute Tox. 4 H332, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1B H334, Skin Sens. 1 H317, Classification note according to Annex VI to the CLP Regulation: 2, C**
EC	*905-804-3*		**Skin Irrit. 2 H315: ≥ 5%, Eye Irrit. 2 H319: ≥ 5%, Resp. Sens. 1B H334: ≥ 0,1%, STOT SE 3 H335: ≥ 5%**
CAS	*9016-87-9*		**STA Inhalation mists/powders: 1,5 mg/l, STA Inhalation vapours: 11 mg/l**
REACH Reg.			

SECTION 3. Composition/information on ingredients ... / >>

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

INDEX		4,5 ≤ x < 5	**Carc. 2 H351, Acute Tox. 4 H332, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317, EUH204**
EC	*905-806-4*		**Skin Irrit. 2 H315: ≥ 5%, Eye Irrit. 2 H319: ≥ 5%, STOT SE 3 H335: ≥ 5%**
CAS			**STA Inhalation mists/powders: 1,5 mg/l, STA Inhalation vapours: 11 mg/l**
REACH Reg.	*01-2119457015-45-XXXX*		

PROPYLENE CARBONATE

INDEX	*607-194-00-1*	2 ≤ x < 2,5	**Eye Irrit. 2 H319**
EC	*203-572-1*		
CAS	*108-32-7*		
REACH Reg.	*01-2119537232-48-xxxx*		

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS

INDEX		0,89 ≤ x < 1	**Carc. 2 H351, Acute Tox. 4 H332, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317, Classification note according to Annex VI to the CLP Regulation: 2, C**
EC	*500-040-3*		**Skin Irrit. 2 H315: ≥ 5%, Eye Irrit. 2 H319: ≥ 5%, Resp. Sens. 1 H334: ≥ 0,5%, STOT SE 3 H335: ≥ 5%**
CAS	*25686-28-6*		**STA Inhalation mists/powders: 1,5 mg/l, STA Inhalation vapours: 11 mg/l**
REACH Reg.	*01-2119457013-49-XXXX*		

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

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.
INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.
INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

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

Specific information on symptoms and effects caused by the product are unknown.

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

Information not available

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.
UNSUITABLE EXTINGUISHING EQUIPMENT
None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

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

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Storage temperature: 25 - 35 °C (77 - 95 °F)
Storage period: 6 months

Suitable containers: Steel. Stainless steel.
Unsuitable containers: copper, copper alloys and galvanized surfaces

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

DEU	Deutschland	Forschungsgemeinschaft MAK- und BAT-Werte-Liste 2022 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe Mitteilung 58
	TLV-ACGIH	ACGIH 2023

SECTION 8. Exposure controls/personal protection ... / >>

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

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,0037	mg/l
Normal value in marine water	0,00037	mg/l
Normal value for fresh water sediment	11,7	mg/kg
Normal value for marine water sediment	11,7	mg/kg
Normal value for marine water, intermittent release	0,037	mg/l
Normal value of STP microorganisms	NPI	
Normal value for the terrestrial compartment	2,33	mg/kg
Normal value for the atmosphere	NPI	

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		NPI		NPI				
Inhalation	0,5 mg/m3	NPI	0,025 mg/m3	NPI	0,1 mg/m3	NPI	0,05 mg/m3	NPI
Skin	MED	NPI	MED	NPI	MED	NPI	MED	NPI

PROPYLENE CARBONATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	8,5	2	8,5	2	INHAL
MAK	DEU	8,5	2	8,5	2	INHAL

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,9	mg/l
Normal value in marine water	0,09	mg/l
Normal value of STP microorganisms	7400	mg/l
Normal value for the terrestrial compartment	0,81	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				10 mg/kg bw/d				
Inhalation			10 mg/m3	17,4 mg/m3			20 mg/m3	70,53 mg/m3
Skin				10 mg/kg bw/d			10 mg/cm2	20 mg/kg bw/d

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,0037	mg/l
Normal value in marine water	0,00037	mg/l
Normal value for fresh water sediment	11,7	mg/kg/d
Normal value for marine water sediment	1,17	mg/kg/d
Normal value for marine water, intermittent release	0,037	mg/l
Normal value for the terrestrial compartment	2,33	mg/kg/d

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation	0,05 mg/m3		0,025 mg/m3		0,1 mg/m3		0,05 mg/m3	
Skin	MED		MED		MED		MED	

SECTION 8. Exposure controls/personal protection ... / >>

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH			0,005			(Diisocianato di esametilene)

Legend:
(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.
Provide an emergency shower with face and eye wash station.
Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).
HAND PROTECTION
Protect hands with category III work gloves.
The following should be considered when choosing work glove material (see standard EN 374): compatibility, degradation, failure time and permeability.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.
SKIN PROTECTION
Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.
EYE PROTECTION
Wear airtight protective goggles (see standard EN ISO 16321).
RESPIRATORY PROTECTION
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. Use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387).
If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.
ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	orange	
Odour	characteristic	
Melting point / freezing point	not available	
Initial boiling point	221 °C	
Flammability	not available	
Lower explosive limit	not available	
Upper explosive limit	not available	
Flash point	not available	
Auto-ignition temperature	392 °C	
Decomposition temperature	not available	
pH	not available	
Kinematic viscosity	not available	
Dynamic viscosity	80 - 120 cP	
Solubility	not available	
Partition coefficient: n-octanol/water	not available	
Vapour pressure	2 Pa	
Density and/or relative density	1,187 g/cm3	
Relative vapour density	not available	
Particle characteristics	not applicable	

SECTION 9. Physical and chemical properties ... / >>

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

Information not available

SECTION 10. Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

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

PROPYLENE CARBONATE
The substance is hygroscopic.

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Exposure to high temperatures may cause decomposition of the product and generation of gases.

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Polymerization can be catalyzed by: Strong bases. Waterfall.

10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Avoid contact with metals such as: Aluminum. Zinc. Brass. Tin can. Copper. Galvanized metals.
Avoid contact with absorbent materials such as: Wet organic absorbents. Avoid inadvertent contact with polyols.

10.5. Incompatible materials

PROPYLENE CARBONATE
Strong acids, strong bases, strong oxidizing agents.

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Acids. Alcohols. Amines. Waterfall. Ammonia. Bases. Metallic compounds. Humid air. Strong oxidants.

10.6. Hazardous decomposition products

Information not available

SECTION 11. Toxicological information

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

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

SECTION 11. Toxicological information ... / >>

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation - mists / powders) of the mixture:	1,88 mg/l
ATE (Inhalation - vapours) of the mixture:	13,75 mg/l
ATE (Inhalation - gas) of the mixture:	Acute Tox. 4
ATE (Oral) of the mixture:	Not classified (no significant component)
ATE (Dermal) of the mixture:	Not classified (no significant component)

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

LD50 (Oral):	2000 mg/kg

PROPYLENE CARBONATE

LD50 (Dermal):	> 2000 mg/kg
LD50 (Oral):	> 5000 mg/kg

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS

LD50 (Dermal):	> 9400 mg/kg
LD50 (Oral):	> 5000 mg/kg

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES

STA (Inhalation mists/powders):	1,5 mg/l estimate from table 3.1.2 of Annex I of the CLP (figure used for calculation of the acute toxicity estimate of the mixture)
STA (Inhalation vapours):	11 mg/l estimate from table 3.1.2 of Annex I of the CLP (figure used for calculation of the acute toxicity estimate of the mixture)

PROPYLENE CARBONATE
Method: OECD 401
Reliability (Klimisch score): 1
Species: Rat (Sprague-Dawley; Male/Female)
Routes of exposure: oral
Results: LD50 > 5000

Method: OECD 402
Reliability (Klimisch score): 1
Species: rabbit (New Zealand White; Male/Female)
Routes of exposure: dermal
Results: LD50 > 2000 mg/kg.

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Method: OECD 425
Reliability (Klimisch score): 1
Species: Rat (Sprague-Dawley; Male)
Routes of exposure: oral
Results: LD50 > 5000 mg/kg body weight

Method: equivalent or similar to OECD 402
Reliability (Klimisch score): 2
Species: Rabbit (Male/Female)
Routes of exposure: dermal
Results: LD50 > 9400 mg/kg body weight

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES
Based on the weight of evidence of available data determined by expert judgment, the substance is classified as toxic by inhalation.

SKIN CORROSION / IRRITATION

Causes skin irritation

PROPYLENE CARBONATE
Method: equivalent or similar to OECD 404
Reliability (Klimisch score): 1
Species: rabbit (New Zealand White)
Routes of exposure: dermal
Results: non-irritating.

SECTION 11. Toxicological information ... / >>

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Method: OECD 404
Reliability (Klimisch score): 1
Species: Rabbit (HC:NZW)
Routes of exposure: dermal
Results: irritating

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES
Based on the weight of evidence of available data determined by expert judgment, the substance is classified as a skin irritant

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

PROPYLENE CARBONATE
Method: OECD 405
Reliability (Klimisch score): 1
Species: rabbit (New Zealand White)
Routes of exposure: ocular
Results: irritating

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Method: OECD 405
Reliability (Klimisch score): 1
Species: Rabbit (HC:NZW)
Routes of exposure: ocular
Results: irritating

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES
Based on the weight of evidence of available data determined by expert judgment, the substance is classified as an eye irritant

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
Sensitising for the respiratory system

PROPYLENE CARBONATE
Based on the weight of evidence of available data determined by expert judgment, the substance is not classified for the Respiratory or Skin Sensitization hazard class.

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES
Based on the weight of evidence of available data determined by expert judgment, the substance is classified as sensitizing by inhalation and in contact with the skin

Respiratory sensitization

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Method: equivalent or similar to OECD-GD 39
Reliability (Klimisch score): 2
Species: Rat (Brown Norway; Male)
Routes of exposure: inhalation
Results: sensitizing

Skin sensitization

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Method: OECD 406
Reliability (Klimisch score): 1
Species: Guinea Pig (Hartley; Male/Female)
Routes of exposure: epicutaneous
Results: sensitizing

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

PROPYLENE CARBONATE
Method: equivalent or similar to OECD 482 - In vitro test
Reliability (Klimisch score): 1
Species: rat F344 (hepatocytes)

SECTION 11. Toxicological information ... / >>

Results: negative without metabolic activation

Method: equivalent or similar to OECD 474
Reliability (Klimisch score): 2
Species: Mouse (CD-1; Male/Female)
Routes of exposure: intraperitoneal
Results: negative.

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Method: OECD 471 - in vitro test
Reliability (Klimisch score): 1
Species: S. typhimurium, E. Coli
Results: negative with and without metabolic activation

Method: OECD 474 - in vivo test
Reliability (Klimisch score): 1
Species: Rat (Brown Norway; Male)
Routes of exposure: inhalation
Results: negative

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES
Based on available data, the substance does not have mutagenic effects and is not classified under the CLP hazard class of germ cell mutagenicity.

CARCINOGENICITY

Suspected of causing cancer

PROPYLENE CARBONATE
Method: equivalent or similar to OECD 451
Reliability (Klimisch score): 2
Species: Rat (C3H/HeJ; Male)
Routes of exposure: dermal
Results: negative.

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Method: equivalent or similar to OECD 453
Reliability (Klimisch score): 2
Species: Rat (Wistar; Male/Female)
Routes of exposure: inhalation (aerosol)
Results: Carcinogenic after long-term inhalation at aerosol concentrations of 6.0 mg/m3.

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES
Suspected of causing cancer by inhalation (Classification data obtained from the supplier MSDS).

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Based on available data, the substance does not present reproductive toxicity effects and is not classified under the relevant CLP hazard class

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES
Based on available data, the substance does not present reproductive toxicity effects and is not classified under the relevant CLP hazard class.

Adverse effects on sexual function and fertility

PROPYLENE CARBONATE
Method: NTP (RACB)
Reliability (Klimisch score): 2
Species: Mouse (CD-1; Male/Female)
Routes of exposure: oral
Results: negative NOAEL (P0, F1, F2): 10100 mg/kg body weight/day

Adverse effects on development of the offspring

SECTION 11. Toxicological information ... / >>

PROPYLENE CARBONATE
Method: equivalent or similar to OECD 414
Reliability (Klimisch score): 1
Species: mouse (CD-1)
Routes of exposure: oral
Results: negative. NOAEL (development): 10400 mg/kg body weight/day; NOAEL (maternal): 52 mg/kg body weight/day.

STOT - SINGLE EXPOSURE

May cause respiratory irritation

PROPYLENE CARBONATE
Based on available data, the substance does not present specific target organ toxicity effects for single exposure and is not classified under the relevant CLP hazard class.

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Based on available data, the substance presents specific toxicity effects for target organs for single exposure [respiratory tract] and is classified under the relevant CLP hazard class.

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES
Based on available data, the substance presents specific toxicity effects for target organs for single exposure [respiratory system] and is classified under the relevant CLP hazard class.

Target organs

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Respiratory System

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES
respiratory system

Route of exposure

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Inhalation

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES
inhalation

STOT - REPEATED EXPOSURE

May cause damage to organs

PROPYLENE CARBONATE
Method: equivalent or similar to OECD 408
Reliability (Klimisch score): 2
Species: Rat (Sprague-Dawley; Male/Female)
Routes of exposure: oral
Results: negative. NOAEL: > 5000 mg/kg body weight/day

Method: equivalent or similar to OECD 413
Reliability (Klimisch score): 2
Species: rat (Fischer 344; Male/Female)
Routes of exposure: inhalation (aerosol)
NOAEC results (systemic): 1000 mg/m3; NOAEC (local): 100 mg/m3; LOAEC (local): 500 mg/m3

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Based on available data, the substance presents specific toxicity effects for target organs upon repeated exposure [respiratory tract] and is classified under the relevant CLP hazard class.

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES
Based on available data, the substance exhibits specific target organ toxicity effects upon repeated exposure [respiratory system] and is classified under the relevant CLP hazard class.

Target organs

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Respiratory System

SECTION 11. Toxicological information ... / >>

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES
respiratory system

Route of exposure

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Inhalation

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES
inhalation

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

PROPYLENE CARBONATE
There are no data available on the danger in case of aspiration.

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
There are no data available on the danger in case of aspiration.

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES
There are no data available on the danger in case of aspiration

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
EL50 - Crustaceans 8.9 mg/l/48h, Daphnia magna (OECD 202)

PROPYLENE CARBONATE

LC50 - for Fish	> 1000 mg/l/96h Cyprinus carpio (EU C.1)
EC50 - for Crustacea	> 1000 mg/l/48h Daphnia magna (equivalente o similare a OECD 202)
EC50 - for Algae / Aquatic Plants	> 900 mg/l/72h Desmodesmus subspicatus (equivalente o similare a OECD 201)

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS

LC50 - for Fish	> 100 mg/l/96h Danio rerio (OECD 203)
Chronic NOEC for Crustacea	> 10 mg/l/21 giorni Daphnia magna (OECD 211)

12.2. Persistence and degradability

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Not rapidly degradable, 0% in 28 days (OECD 302 C)

PROPYLENE CARBONATE

Rapidly degradable	87,7% in 29 giorni (OECD 301 B)

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
NOT rapidly degradable

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES

Solubility in water	0,03 mg/l T = 22 °C, pH = 7 (Sito ECHA)

NOT rapidly degradable

12.3. Bioaccumulative potential

SECTION 12. Ecological information ... / >>

PROPYLENE CARBONATE
Partition coefficient: n-octanol/water -0,41 NLM, TOXNET, Hazardous Substance Databank (HSDB)

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
Partition coefficient: n-octanol/water 4,52 Log Kow T = 22 °C; pH = 7 (Pubblicazione 2000)
BCF 439 (BCFBAF v3.00, EPI Suite(TM) v4.00)

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES
Partition coefficient: n-octanol/water 4,52 Log Kow T = 22 °C, pH = 7 circa (Pubblicazione (2000))

12.4. Mobility in soil

Information not available

12.5. Results of PBT and vPvB assessment

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

12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

14.1. UN number or ID number

not applicable

14.2. UN proper shipping name

not applicable

14.3. Transport hazard class(es)

not applicable

14.4. Packing group

not applicable

14.5. Environmental hazards

not applicable

14.6. Special precautions for user

not applicable

14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EU: None

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

Product		
Point	3	
Contained substance		
Point	75	
Point	56	4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS REACH Reg.: 01-2119457013-49-XXXX
Point	56	DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES
Point	56	Reaction mass of 4,4´- methylenediphenyl diisocyanate and o-(p- isocyanatobenzyl) phenyl isocyanate REACH Reg.: 01-2119457015-45-XXXX
Point	74	DIISOCYANATES

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
not applicable

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

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

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

SECTION 16. Other information

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

Carc. 2	Carcinogenicity, category 2
Acute Tox. 4	Acute toxicity, category 4
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Resp. Sens. 1	Respiratory sensitization, category 1
Resp. Sens. 1B	Respiratory sensitization, category 1B
Skin Sens. 1	Skin sensitization, category 1
H351	Suspected of causing cancer.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.

SECTION 16. Other information ... / >>

EUH204 Contains isocyanates. May produce an allergic reaction.

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY
1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
23. Delegated Regulation (UE) 2023/707

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION
Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.
Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.
Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.