

Safety Data Sheet

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

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

1.1. Product identifier

Code: 0430149P
Product name: SYNTECH POLIUREA PRIMER- PUR
UFI : 36U0-A016-T004-E0UJ

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

Intended use: Single-component polyurethane primer specific for bituminous membranes

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:

Flammable liquid, category 3	H226	Flammable liquid and vapour.
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.
Specific target organ toxicity - single exposure, category 3	H336	May cause drowsiness or dizziness.

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:

H226	Flammable liquid and vapour.
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.
H336	May cause drowsiness or dizziness.
EUH066	Repeated exposure may cause skin dryness or cracking.
EUH204	Contains isocyanates. May produce an allergic reaction.

Precautionary statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
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.
P370+P378	In case of fire: use . . . to extinguish.

Contains: DIPHENYLMETHANE-4,4'-DIISOCYANATE
4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS
ETHYL ACETATE

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 $\geq$ than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration $\geq$ 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
ETHYL ACETATE		
INDEX	607-022-00-5	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC	205-500-4	
CAS	141-78-6	
DIPHENYLMETHANE-4,4'-DIISOCYANATE		
INDEX	615-005-00-9	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

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

EC	202-966-0		Skin Irrit. 2 H315: ≥ 5%, Eye Irrit. 2 H319: ≥ 5%, Resp. Sens. 1 H334: ≥ 0,1%, STOT SE 3 H335: ≥ 5%
CAS	101-68-8		ATE Inhalation mists/powders: 1,5 mg/l
4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS			
INDEX	19,5 ≤ x < 21		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		ATE Inhalation mists/powders: 1,5 mg/l, ATE Inhalation vapours: 11 mg/l
REACH Reg.	01-2119457013-49-XXXX		
PROPYLENE CARBONATE			
INDEX	607-194-00-1	4,5 ≤ x < 5	Eye Irrit. 2 H319
EC	203-572-1		
CAS	108-32-7		
REACH Reg.	01-2119537232-48-xxxx		
o-(p-isocyanatobenzyl)phenyl isocyanate			
INDEX	615-005-00-9	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, EUH204
EC	227-534-9		Skin Irrit. 2 H315: ≥ 5%, Eye Irrit. 2 H319: ≥ 5%, STOT SE 3 H335: ≥ 5%
CAS	5873-54-1		ATE Inhalation mists/powders: 1,5 mg/l
REACH Reg.	01-2119480143-45		

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

In case of doubt or in the presence of symptoms contact a doctor and show him this document.

In case of more severe symptoms, ask for immediate medical aid.

EYES: Remove, if present, contact lenses if the situation allows you to do so easily. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Take off immediately all contaminated clothing. Wash immediately and thoroughly with running water (and soap if possible). Get medical advice/attention. Avoid further contact with contaminated clothing.

INGESTION: Do not induce vomiting unless explicitly authorised by a doctor. Do not give anything by mouth to an unconscious person. Get medical advice/attention.

INHALATION: Remove victim to fresh air, away from the accident scene. In the event of respiratory symptoms (coughing, wheezing, breathing difficulty, asthma) keep the victim in a comfortable position for breathing. If necessary administer oxygen. If the subject stops breathing, administer artificial respiration. Get medical advice/attention.

Rescuer protection

It is good practice for rescuers lending support to a person who has been exposed to a chemical substance or to a mixture to wear personal protective equipment. The nature of such protection depends on the hazard level of the substance or mixture, on the type of exposure and on the extent of the contamination. In the absence of other more specific indications, use of disposable gloves in the event of possible contact with body fluids is recommended. For the type of PPE suitable for the characteristics of the substance or mixture, see section 8.

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

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

DELAYED EFFECTS: Based on the information currently available, there are no known cases of delayed effects following exposure to this product.

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

IF exposed or concerned: Get medical advice / attention.

Means to have available in the workplace for specific and immediate treatment

Running water for skin and eye wash.

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

SECTION 5. Firefighting measures ... / >>

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

UNSUITABLE EXTINGUISHING EQUIPMENT

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

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

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

5.3. Advice for firefighters

GENERAL INFORMATION

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

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

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

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

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

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

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

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

7.2. Conditions for safe storage, including any incompatibilities

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

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS

Storage temperature: 25 - 35 °C (77 - 95 °F)

Storage period: 6 months

SECTION 7. Handling and storage ... / >>

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:

BGR	България	НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. ЗА ЗАЩИТА НА РАБОТЕЩИТЕ ОТ РИСКОВЕ, СВЪРЗАНИ С ЕКСПОЗИЦИЯ НА ХИМИЧНИ АГЕНТИ ПРИ РАБОТА (изм. ДВ. бр.28 от 2 Април 2024г.)
DEU	Deutschland	WirkungDosisNOAELMAK-und BAT-Werte-Liste 2024 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe
ESP	España	Límites de exposición profesional para agentes químicos en España 2024
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en FranceDécret n° 2021-1849 du 28 décembre 2021
GRC	Ελλάδα	Π.Δ. 26/2020 (ΦΕΚ 50/Α` 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ "σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιογόνους παράγοντες κατά την εργασία"»
HUN	Magyarország	Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelethe a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
PRT	Portugal	Decreto-Lei n.º 102/2024, de 4 de dezembro. Sumário: Transpõe para a ordem jurídica interna a Diretiva (UE) 2022/431, relativa à proteção dos trabalhadores contra riscos ligados à exposição a agentes cancerígenos ou mutagénicos e procede à quarta alteração
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 24 czerwca 2024 r. zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy
ROU	România	HOTĂRÂRE nr. 179 din 28 februarie 2024 pentru modificarea și completarea Hotărârii Guvernului nr. 1.093/2006 privind stabilirea cerințelor minime de securitate și sănătate pentru protecția lucrătorilor împotriva riscurilor legate de expunerea la agenți ca
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	ACGIH	ACGIH 2025

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

o-(p-isocyanatobenzyl)phenyl isocyanate

Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations
		mg/m3	ppm	
AGW	DEU	0,05	0,05	
NDS/NDSch	POL	0,03	0,09	
OEL	EU	1	2	
ACGIH		1	3	

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	1,17	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

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

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations
		mg/m3	ppm	
TLV	BGR	734	200	1468
AGW	DEU	730	200	1460
MAK	DEU	750	200	1500
VLA	ESP	734	200	1468
VLEP	FRA	734	200	1468
TLV	GRC	734	200	1468
AK	HUN	734	200	1468
VLEP	ITA	734	200	1468
VLE	PRT	734	200	1468
NDS/NDSch	POL	734		1468
TLV	ROU	734	200	1468
WEL	GBR	734	200	1468
OEL	EU	734	200	1468
ACGIH		1441	400	

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations
		mg/m3	ppm	
AGW	DEU	0,05	0,05 (C)	INHAL C = 0,1 mg/m3
MAK	DEU	0,05	0,05 (C)	INHAL C = 0,1 mg/m3
MAK	DEU	0,05	0,05	SKIN C = 0,1 mg/m3
VLA	ESP	0,052	0,005	
VLEP	FRA	0,1	0,01	0,2
TLV	GRC	0,2	0,2	0,02
AK	HUN	0,05	0,05	
NDS/NDSch	POL	0,03	0,09	
TLV	ROU		0,15	
ACGIH		0,051	0,005	

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

PROPYLENE CARBONATE

Threshold Limit Value

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

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

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

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, permeability time. 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.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

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).

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

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	not available	
Flammability	not available	
Lower explosive limit	not available	
Upper explosive limit	not available	
Flash point	< 60 °C	
Auto-ignition temperature	not available	
Decomposition temperature	not available	
pH	not available	
Kinematic viscosity	500 - 800 mPas	Temperature: 25 °C
Solubility	not available	
Partition coefficient: n-octanol/water	not available	
Vapour pressure	not available	
Density and/or relative density	1,11 - 1,12 g/cm3	
Relative vapour density	not available	
Particle characteristics	not applicable	

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

VOC (Directive 2010/75/EU)	49,99 %	-	557,39	g/litre
VOC (volatile carbon)	27,23 %	-	303,65	g/litre

SECTION 10. Stability and reactivity

10.1. Reactivity

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

ETHYL ACETATE

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Decomposes at 274°C/525°F.

With water it develops carbon dioxide and forms an insoluble solid polymer and consequently any wet material recovered must be stored in open containers.

10.2. Chemical stability

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

SECTION 10. Stability and reactivity ... / >>**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

The vapours may also form explosive mixtures with the air.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals,hydrides,oleum.May react violently with: fluorine,strong oxidising agents,chlorosulphuric acid,potassium tert-butoxide.Forms explosive mixtures with: air.

DIPHENYLMETHANE-4,4'-DIISOCYANATE

May react dangerously with: alcohols,amines,ammonia,sodium hydroxide,acids,water,strong acids,strong bases.

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS

Polymerization can be catalyzed by: Strong bases. Waterfall.

10.4. Conditions to avoid

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

ETHYL ACETATE

Avoid exposure to: light,sources of heat,naked flames.

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**ETHYL ACETATE**

Incompatible with: acids,bases,strong oxidants,chlorosulphuric acid.

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

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

DIPHENYLMETHANE-4,4'-DIISOCYANATE

May develop: nitric oxide,carbon oxides,hydrogen cyanide.

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**DIPHENYLMETHANE-4,4'-DIISOCYANATE**

WORKERS: inhalation; contact with the skin.

POPULATION: inhalation of ambient air; contact with the skin of products containing the substance.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**DIPHENYLMETHANE-4,4'-DIISOCYANATE**

Causes symptoms of irritation of the eye mucous membranes, upper respiratory and digestive tract and also to the skin; lung irritation of the bronchitis type (chest pains, cough, asthmatic wheezing), neurological symptoms (dizziness, balance disorders, headaches and consciousness disturbances). In severe cases, may give rise to delayed pulmonary edema (INRS, 2009). May cause hypersensitivity

SECTION 11. Toxicological information ... / >>

pneumonia which, in the event of continuous exposure, may progress to interstitial fibrosis (INRS, 2009).

Interactive effects

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Cross sensitisations with other isocyanates are possible, in particular with TDI (toluene diisocyanate).

ACUTE TOXICITY

ATE (Inhalation - mists / powders) of the mixture:	3,57 mg/l
ATE (Inhalation - vapours) of the mixture:	> 20 mg/l
ATE (Oral) of the mixture:	Not classified (no significant component)
ATE (Dermal) of the mixture:	Not classified (no significant component)

DIPHENYLMETHANE-4,4'-DIISOCYANATE

ATE (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)
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4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS

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

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

PROPYLENE CARBONATE

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

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.

o-(p-isocyanatobenzyl)phenyl isocyanate

ATE (Inhalation mists/powders):	1,5 mg/l estimate from table 3.1.2 of Annex I of the CLP
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SKIN CORROSION / IRRITATION

Causes skin irritation

Repeated exposure may cause skin dryness or cracking.

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS

Method: OECD 404

Reliability (Klimisch score): 1

Species: Rabbit (HC:NZW)

Routes of exposure: dermal

Results: irritating

SECTION 11. Toxicological information ... / >>**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.

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS

Method: OECD 405

Reliability (Klimisch score): 1

Species: Rabbit (HC:NZW)

Routes of exposure: ocular

Results: irritating

PROPYLENE CARBONATE

Method: OECD 405

Reliability (Klimisch score): 1

Species: rabbit (New Zealand White)

Routes of exposure: ocular

Results: irritating

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

Sensitising for the respiratory system

May produce an allergic reaction.

Contains:

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.

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

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

SECTION 11. Toxicological information ... / >>**PROPYLENE CARBONATE**

Method: equivalent or similar to OECD 482 - In vitro test

Reliability (Klimisch score): 1

Species: rat F344 (hepatocytes)

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.

CARCINOGENICITY

Suspected of causing cancer

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 1999).

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.

PROPYLENE CARBONATE

Method: equivalent or similar to OECD 451

Reliability (Klimisch score): 2

Species: Rat (C3H/HeJ; Male)

Routes of exposure: dermal

Results: negative.

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

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**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

May cause drowsiness or dizziness

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.

SECTION 11. Toxicological information ... / >>**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.

Target organs

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS

Respiratory System

Route of exposure

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS

Inhalation

STOT - REPEATED EXPOSURE

May cause damage to organs

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.

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

Target organs

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS

Respiratory System

Route of exposure

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS

Inhalation

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS

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

PROPYLENE CARBONATE

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

SECTION 12. Ecological information ... / >>

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)
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)

o-(p-isocyanatobenzyl)phenyl isocyanate

EC50 - for Crustacea 1000 mg/l/48h
EC10 for Crustacea 10 mg/l/48h
EC10 for Algae / Aquatic Plants 1640 mg/l/72h
Chronic NOEC for Crustacea 10 mg/l (21 days)

12.2. Persistence and degradability

ETHYL ACETATE

Solubility in water > 10000 mg/l
Rapidly degradable

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Solubility in water 0,1 - 100 mg/l
NOT rapidly degradable

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS

NOT rapidly degradable
Not rapidly degradable, 0% in 28 days (OECD 302 C)

PROPYLENE CARBONATE

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

12.3. Bioaccumulative potential

ETHYL ACETATE

Partition coefficient: n-octanol/water 0,68
BCF 30

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Partition coefficient: n-octanol/water 4,51

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)

PROPYLENE CARBONATE

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

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 $\geq$ 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.

Waste transportation may be subject to ADR restrictions.

The management of waste arising from the use or dispersal of this product must be organised in accordance with occupational safety regulations. See section 8 for possible need for PPE.

CONTAMINATED PACKAGING

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

SECTION 14. Transport information

14.1. UN number or ID number

ADR / RID, IMDG, IATA: UN 1993

14.2. UN proper shipping name

ADR / RID: FLAMMABLE LIQUID, N.O.S. (4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS; DIPHENYLMETHANE-4,4'-DIISOCYANATE)

IMDG: FLAMMABLE LIQUID, N.O.S. (4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS; DIPHENYLMETHANE-4,4'-DIISOCYANATE ;o-(p-isocyanatobenzyl)phenyl isocyanate)

IATA: FLAMMABLE LIQUID, N.O.S. (4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS; DIPHENYLMETHANE-4,4'-DIISOCYANATE)

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3

IMDG: Class: 3 Label: 3

IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards

ADR / RID: NO

IMDG: not marine pollutant

IATA: NO

14.6. Special precautions for user

ADR / RID: HIN - Kemler: 30
Special provision: 274, 601

Limited Quantities: 5 L

Tunnel restriction code: (D/E)

IMDG: EMS: F-E, S-E

Limited Quantities: 5 L

IATA: Cargo:

Maximum quantity: 220 L

Packaging instructions: 366

Passengers:

Maximum quantity: 60 L

Packaging instructions: 355

Special provision:

A3

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:

P5c

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

Product

Point 3 - 40

Contained substance

Point 75

Point 56

4,4' - METHYLENE PHENYL DIISOCYANATE, OLIGOMERS

REACH Reg.: 01-2119457013-49-XXXX

Point 56

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Point 56

o-(p-isocyanatobenzyl)phenyl isocyanate

REACH Reg.: 01-2119480143-45

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 $\geq$ 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:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
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
Skin Sens. 1	Skin sensitization, category 1
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
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.

SECTION 16. Other information ... / >>

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.
H336	May cause drowsiness or dizziness.
EUH066	Repeated exposure may cause skin dryness or cracking.
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
24. Delegated Regulation (UE) 2023/1434 (XIX Atp. CLP)
25. Delegated Regulation (UE) 2023/1435 (XX Atp. CLP)
26. Delegated Regulation (UE) 2024/197 (XXI Atp. CLP)

SECTION 16. Other information ... / >>

27. Delegated Regulation (UE) 2024/2564 (XXII Atp. CLP)

- 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.

Changes to previous review:

The following sections were modified:

02 / 04 / 09 / 11 / 12 / 13 / 14 / 15.