Safety Data Sheet

According to Annex II to REACH - Regulation 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

Product name	Flex PU Primer

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

Intended use
Solvent-based one-pack polyurethane primer for polyurethane waterproofing coatings and polyurethane sealants. For professional use

Uses advised against
Non raccomandato per usi industriali, professionali o di consumo diversi dagli usi identificati sopra

1.3 Details of the supplier of the safety data sheet

Company name	TORGGLER S.R.L.
Full address	Via Prati Nuovi 9
Town	Marlengo
Postal code	39020
Province	BZ
Country	Italy
Phone number	+39 0473 282400
Fax	+39 0473 282501
e-mail address of the competent person responsible for the Safety Data Sheet	reach@torggler.com

1.4 Emergency telephone number

For urgent inquiries refer to	+39 348 662 70 93 (08.00 - 17.30)

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		
Flammable liquid, category 3	H226	Flammable liquid and vapour.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Skin irritation, category 2	H315	Causes skin irritation.
Skin sensitization, category 1A	H317	May cause an allergic skin reaction.
Eye irritation, category 2	H319	Causes serious eye irritation.
Acute toxicity, category 4	H332	Harmful if inhaled.
Respiratory sensitization, category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Hazardous to the aquatic environment, chronic toxicity, category 3	H412	Harmful to aquatic life with long lasting effects.

2.2 Label elements

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

Hazard pictograms

Signal word

Danger

Hazard statements	
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
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.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P301+P310	IF SWALLOWED: Immediately call a poison center/doctor.
P312	Call a poison center/doctor if you feel unwell.
P331	Do NOT induce vomiting.
P370+P378	In case of fire: Use water, foam, chemical powder, sand to extinguish.
P260	Do not breathe mist, spray, vapours.

Contains

reaction mass of ethylbenzene and m-xylene and p-xylene
Diphenylmethanediisocyanate, isomers and homologues
M-TOLYLIDENE DIISOCYANATE
Addition reaction products of conjugated sunflower-oil fatty acids and tall-oil fatty acids with maleic anhydride
MALEIC ANHYDRIDE

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

VOC (Directive 2004/42/EC)	
Binding primers.	
Volatile organic compounds - ready to use	498 g/l
VOC subcategory limit	750 g/l

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

reaction mass of ethylbenzene and m-xylene and p-xylene

Concentration	47 ≤ x < 56 %
EC number	905-562-9
Registration Number	01-2119488216-32-xxxx
Hazard classification	▪ Flam. Liq. 3; H226 ▪ Asp. Tox. 1; H304 ▪ Acute Tox. 4; H312 ▪ Skin Irrit. 2; H315 ▪ Eye Irrit. 2; H319 ▪ Acute Tox. 4; H332 ▪ STOT SE 3; H335 ▪ STOT RE 2; H373 ▪ Aquatic Chronic 3; H412
ATE (Dermal)	1,100 mg/kg
ATE (Inhalation - mists / powders)	1.5 mg/l

2-METHOXY-1-METHYLETHYL ACETATE

Concentration	21.6 ≤ x < 33 %
CAS number	108-65-6
EC number	203-603-9
INDEX number	607-195-00-7
Hazard classification	▪ Flam. Liq. 3; H226
Substance with a community workplace exposure limit.	

Diphenylmethanediisocyanate, isomers and homologues

Concentration	21.6 ≤ x < 33 %
CAS number	9016-87-9
EC number	618-498-9
Hazard classification	▪ Skin Irrit. 2; H315 ▪ Skin Sens. 1B; H317 ▪ Eye Irrit. 2; H319 ▪ Acute Tox. 4; H332 ▪ Resp. Sens. 1B; H334 ▪ STOT SE 3; H335 ▪ Carc. 2; H351 ▪ STOT RE 2; H373
ATE (Inhalation - mists / powders)	1.5 mg/l
ATE (Inhalation - vapours)	11 mg/l
Substance with a community workplace exposure limit.	

M-TOLYLIDENE DIISOCYANATE

Concentration	0.55 ≤ x < 1 %
CAS number	26471-62-5
EC number	247-722-4
INDEX number	615-006-00-4

Hazard classification	▪ Skin Irrit. 2; H315 ▪ Skin Sens. 1; H317 ▪ Eye Irrit. 2; H319 ▪ Acute Tox. 1; H330 ▪ Resp. Sens. 1; H334 ▪ STOT SE 3; H335 ▪ Carc. 2; H351 ▪ Aquatic Chronic 3; H412
Specific concentration limits	▪ Resp. Sens. 1; H334: ≥ 0.1 %
Classification note according to Annex VI to the CLP Regulation:	C
Additional classification	EUH204
LC50 (Inhalation vapours):	0.1 mg/l (4h)
Substance with a community workplace exposure limit.	

Addition reaction products of conjugated sunflower-oil fatty acids and tall-oil fatty acids with maleic anhydride

Concentration	0.55 ≤ x < 1 %
EC number	701-043-4
Registration Number	01-2119976378-19-xxxx
Hazard classification	▪ Skin Irrit. 2; H315 ▪ Skin Sens. 1; H317

MALEIC ANHYDRIDE

Concentration	0.072 ≤ x < 0.1 %
CAS number	108-31-6
EC number	203-571-6
INDEX number	607-096-00-9
Hazard classification	▪ Skin Corr. 1B; H314 ▪ Skin Sens. 1A; H317 ▪ Eye Dam. 1; H318 ▪ Resp. Sens. 1; H334 ▪ STOT RE 1; H372 (respiratory system: lower respiratory tract) by the inhalation route
Specific concentration limits	▪ Skin Sens. 1A; H317: ≥ 0.001 %

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.

Rescuers 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: Poisoning symptoms can appear even hours after exposure: it is therefore appropriate to keep the injured person under observation in the hours following the accident.

4.3 Indication of any immediate medical attention and special treatment needed

Call a poison center/doctor if you feel unwell.

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
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

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.
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

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. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

7.2 Conditions for safe storage, including any incompatibilities

Store only in the original container. 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.

Storage class TRGS 510 (Germany)
3 – Flammable liquids

Applicable technical instruction according to Royal Decree 656/2017:

Classification	Storage in fixed containers	Storage in mobile containers
▪ H226 – Flam. Liq. 3 ▪ H332 – Acute Tox. 4	MIE APQ-1 – Storage of flammable and combustible liquids in fixed containers MIE APQ-7 – Storage of toxic liquids in fixed containers	MIE APQ-10 – Storage in mobile containers
Respect the joint storage conditions established in Royal Decree 656/2017.		

2-METHOXY-1-METHYLETHYL ACETATE

Store in an inert atmosphere, sheletered from moisture because it hydrolises easily.

7.3 Specific end use(s)

Information not available.

Section 8 Exposure controls/personal protection

8.1 Control parameters

Regulatory references	
ACGIH	ACGIH 2026
European Union-OEL	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.
Ireland-OELV	2020 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations (2001-2015) and the Safety, Health and Welfare at Work (Carcinogens) Regulations (2001-2019)
Malta-TLV	PROTECTION OF THE HEALTH AND SAFETY OF WORKERS FROM THE RISKS RELATED TO CHEMICAL AGENTS AT WORK REGULATIONS (S.L.424.24). PROTECTION OF WORKERS FROM THE RISKS RELATED TO EXPOSURE TO CARCINOGENS OR MUTAGENS AT WORK REGULATIONS (S.L.424.22)

2-METHOXY-1-METHYLETHYL ACETATE

	TWA		STEL		CEILING		Remarks	
	mg/m³	ppm	mg/m³	ppm	mg/m³	ppm		
European Union-OEL	275	50	550	100			Skin	
Ireland-OELV	275	50	550	100			Skin	
Malta-TLV	275	50	550	100			Skin	

Section 8

Health - Derived no-effect level - DNEL / DMEL	Local effect	Systemic effect
Consumers, short-term, inhalation		33 mg/m³
Consumers, long-term, dermal		320 mg/kg bw/d
Consumers, long-term, inhalation		33 mg/m³
Consumers, long-term, oral		36 mg/kg/d
Workers, short-term, inhalation		550 mg/m³
Workers, long-term, dermal		796 mg/kg/d
Workers, long-term, inhalation		275 mg/m³

M-TOLYLIDENE DIISOCYANATE

	TWA		STEL		CEILING		Remarks	
	mg/m³	ppm	mg/m³	ppm	mg/m³	ppm		
European Union-OEL	0.01		0.012				Skin	As NCO
European Union-OEL	0.01		0.2				Inhalation	

Health - Derived no-effect level - DNEL / DMEL	Local effect	Systemic effect
Workers, short-term, inhalation	0.14 mg/m³	0.14 mg/m³
Workers, long-term, inhalation	0.035 mg/m³	0.035 mg/m³

MALEIC ANHYDRIDE

	TWA		STEL		CEILING		Remarks	
	mg/m³	ppm	mg/m³	ppm	mg/m³	ppm		
ACGIH	0.01	0.0025					Inhalation	
Ireland-OELV		0.01					Inhalation	Vapour

Diphenylmethanediisocyanate, isomers and homologues

	TWA		STEL		CEILING		Remarks	
	mg/m³	ppm	mg/m³	ppm	mg/m³	ppm		
European Union-OEL		0.005					--	

Predicted no-effect concentration - PNEC	
Normal value of STP microorganisms	1 mg/l
Normal value in fresh water	1 mg/l
Normal value in marine water	0.1 mg/l
Normal value for the terrestrial compartment	1 mg/kg
Normal value for water, intermittent release	10 mg/l

Health - Derived no-effect level - DNEL / DMEL	Local effect	Systemic effect
Consumers, short-term, inhalation	0.05 mg/m³	
Consumers, long-term, inhalation	0.025 mg/m³	
Workers, short-term, inhalation	0.1 mg/m³	
Workers, long-term, inhalation	0.05 mg/m³	

reaction mass of ethylbenzene and m-xylene and p-xylene

Predicted no-effect concentration - PNEC	
Normal value in fresh water	0.044 mg/l
Normal value in marine water	0.0044 mg/l
Normal value for the terrestrial compartment	0.852 mg/kg/d

Health - Derived no-effect level - DNEL / DMEL	Local effect	Systemic effect
Consumers, short-term, inhalation		260 mg/m³
Consumers, long-term, dermal		125 mg/kg bw/d
Consumers, long-term, inhalation		15 mg/m³
Consumers, long-term, oral		1.6 mg/kg bw/d

Section 8

Health - Derived no-effect level - DNEL / DMEL	Local effect	Systemic effect
Workers, short-term, inhalation		442 mg/m³
Workers, long-term, dermal		180 mg/kg bw/d
Workers, long-term, inhalation		77 mg/m³

Addition reaction products of conjugated sunflower-oil fatty acids and tall-oil fatty acids with maleic anhydride

Health - Derived no-effect level - DNEL / DMEL	Local effect	Systemic effect
Consumers, long-term, dermal		1.5 mg/kg/d
Consumers, long-term, oral		1.5 mg/kg/d
Workers, long-term, dermal		3 mg/kg/d

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.
When choosing risk management measures and operating conditions, consult the exposure scenarios attached.
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 (see standard EN 374).
The following should be considered when choosing work glove material: 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/EN ISO 13034).
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 166).

RESPIRATORY PROTECTION
If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, 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). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.
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. The protection provided by masks is in any case limited.
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.
Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

Section 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid	
Colour	transparent	
Odour	solvent	
Odour threshold	Not applicable	
Melting point / freezing point	Not determined	
Initial boiling point	130 °C (266 °F)	

Flammability	Flammable liquid and vapors	
Lower explosive limit	0.8 % (w/w)	
Upper explosive limit	10.8 % (w/w)	
Flash point	27 °C (80.6 °F)	Substance: reaction mass of ethylbenzene and m-xylene and p-xylene
Auto-ignition temperature	488 °C (910.4 °F)	
Decomposition temperature	Not determined	
pH	not soluble in water	
Kinematic viscosity	Not available	
Dynamic viscosity	< 40 Pl	Temperature: 20 °C (68 °F)
Solubility	soluble in organic solvents	
Partition coefficient: n-octanol/water	Not available	
Vapour pressure	Not available	
Density and/or relative density	1 g/cm³	Temperature: 20 °C (68 °F)
Relative vapour density	Not available	

Particle characteristics

Information not available.

9.2 Other information

9.2.1 Information with regard to physical hazards

Information not available.

9.2.2 Other safety characteristics

Explosive properties	The product is not explosive, however formation of explosive vapour/air mixtures is possible.	
Oxidising properties	The product is not oxidizing	
Total solids	0 %	Temperature: 250 °C (482 °F)
VOC (Directive 2004/42/EC)	49.80 % – 498 g/l	

Section 10 Stability and reactivity

10.1 Reactivity

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

2-METHOXY-1-METHYLETHYL ACETATE

Stable in normal conditions of use and storage
With the air it may slowly develop peroxides that explode with an increase in temperature.

Diphenylmethanediisocyanate, isomers and homologues

Reacts with: water, acids, alcohols, amines, bases

10.2 Chemical stability

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

M-TOLYLIDENE DIISOCYANATE

SADT 230 °C (446 °F)

10.3 Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

2-METHOXY-1-METHYLETHYL ACETATE

May react violently with: oxidising substances, strong acids, alkaline metals

Diphenylmethanediisocyanate, isomers and homologues

Risk of explosion on contact with: water, acids, alcohols, amines, bases

10.4 Conditions to avoid

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

Diphenylmethanediisocyanate, isomers and homologues

Avoid exposure to: high temperatures, moisture

10.5 Incompatible materials

2-METHOXY-1-METHYLETHYL ACETATE

Incompatible with: oxidising substances, strong acids, alkaline metals

Diphenylmethanediisocyanate, isomers and homologues

Keep away from: water, acids, alcohols, amines, bases

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.

Section 11 Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

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

11.1.1 Metabolism, toxicokinetics, mechanism of action and other information

2-METHOXY-1-METHYLETHYL ACETATE

The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product.

11.1.2 Information on likely routes of exposure

2-METHOXY-1-METHYLETHYL ACETATE

WORKERS: inhalation; contact with the skin.

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

2-METHOXY-1-METHYLETHYL ACETATE

Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported (INCR, 2010).

11.1.4 Interactive effects

Information not available.

11.1.5 ACUTE TOXICITY

ATE (Inhalation - mists / powders) of the mixture	2.055 mg/l
ATE (Inhalation - vapours) of the mixture	8.943 mg/l
ATE (Oral) of the mixture	Not classified (no significant component)
ATE (Dermal) of the mixture	> 2,000 mg/kg

2-METHOXY-1-METHYLETHYL ACETATE

LD50 (Oral):	> 6,000 mg/kg	Species/guidelines: Rat
LD50 (Dermal):	> 2,000 mg/kg	Species/guidelines: Rat

M-TOLYLIDENE DIISOCYANATE

LD50 (Oral):	> 4,130 mg/kg	Species/guidelines: Mouse
LD50 (Dermal):	> 9,400 mg/kg	Species/guidelines: Rabbit
LC50 (Inhalation vapours):	0.1 mg/l	Exposure duration: 4 hours Species/guidelines: Rat

MALEIC ANHYDRIDE

LD50 (Oral):	400 mg/kg	Species/guidelines: Rat
LD50 (Dermal):	610 mg/kg	Species/guidelines: Rat

Diphenylmethanediisocyanate, isomers and homologues

LD50 (Oral):	> 2,000 mg/kg	Species/guidelines: ratto, maschio/femmina
LD50 (Dermal):	> 9,400 mg/kg	Species/guidelines: coniglio, maschio/femmina
ATE (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)
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)

reaction mass of ethylbenzene and m-xylene and p-xylene

LD50 (Oral):	> 3,523 mg/kg	Species/guidelines: Rat
LD50 (Dermal):	> 12,126 mg/kg	Species/guidelines: Rabbit
LC50 (Inhalation mists/powders):	> 27 mg/l	Exposure duration: 4 hours Species/guidelines: Rat
ATE (Dermal)	1,100 mg/kg	estimate from table 3.1.2 of Annex I of the CLP (figure used for calculation of the acute toxicity estimate of the mixture)
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)

Addition reaction products of conjugated sunflower-oil fatty acids and tall-oil fatty acids with maleic anhydride

LD50 (Oral):	> 2,000 mg/kg	Species/guidelines: Rat

11.1.6 SKIN CORROSION/IRRITATION

Causes skin irritation.

11.1.7 SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation.

11.1.8 RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
Sensitising for the respiratory system

11.1.9 GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

11.1.10 CARCINOGENICITY

Suspected of causing cancer.

11.1.11 REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

11.1.12 STOT - SINGLE EXPOSURE

May cause respiratory irritation.

11.1.13 STOT - REPEATED EXPOSURE

May cause damage to organs through prolonged or repeated exposure.

Target organs

MALEIC ANHYDRIDE
(respiratory system: lower respiratory tract)

Route of exposure

MALEIC ANHYDRIDE
by the inhalation route

11.1.14 ASPIRATION HAZARD

Toxic for 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

2-METHOXY-1-METHYLETHYL ACETATE

EC50 - for Crustacea	> 500 mg/l	Exposure duration: 48 hours Species/guidelines: Daphnia magna
LC50 - for Fish	161 mg/l	Exposure duration: 96 hours Species/guidelines: Pimephales promelas

M-TOLYLIDENE DIISOCYANATE

EC50 - for Crustacea	18.3 mg/l	Exposure duration: 48 hours Species/guidelines: Americamysis bahia
LC50 - for Fish	133 mg/l	Exposure duration: 96 hours Species/guidelines: Oncorhynchus mykiss
EC50 - for Algae / Aquatic Plants	4,000 mg/l	Exposure duration: 72 hours Species/guidelines: Chlorella vulgaris

Diphenylmethanediisocyanate, isomers and homologues

EC50 - for Crustacea	> 1,000 mg/l	Exposure duration: 24 hours Species/guidelines: Daphnia magna
LC50 - for Fish	> 1,000 mg/l	Exposure duration: 96 hours Species/guidelines: Danio rerio
EC50 - for Algae / Aquatic Plants	> 1,640 mg/l	Exposure duration: 72 hours Species/guidelines: Scenedesmus subspicatus
Chronic NOEC for Crustacea	> 10 mg/l	Species/guidelines: Daphnia magna (21 d)

reaction mass of ethylbenzene and m-xylene and p-xylene

EC50 - for Crustacea	10.389 mg/l	Exposure duration: 48 hours Species/guidelines: Daphnia magna
LC50 - for Fish	> 2.6 mg/l	Exposure duration: 96 hours Species/guidelines: Fish
EC50 - for Algae / Aquatic Plants	4.6 mg/l	Exposure duration: 72 hours Species/guidelines: Algae
Chronic NOEC for Crustacea	1.57 mg/l	Species/guidelines: 21d - Daphnia magna

Addition reaction products of conjugated sunflower-oil fatty acids and tall-oil fatty acids with maleic anhydride

EC50 - for Crustacea	100 mg/l	Exposure duration: 48 hours Species/guidelines: Daphnia magna
EC50 - for Algae / Aquatic Plants	100 mg/l	Exposure duration: 72 hours Species/guidelines: Algae
Chronic NOEC for Crustacea	10 mg/l	Species/guidelines: 21d - Daphnia magna
Chronic NOEC for Algae / Aquatic Plants	100 mg/l	Species/guidelines: Algae

12.2 Persistence and degradability

2-METHOXY-1-METHYLETHYL ACETATE

Solubility in water	> 10,000 mg/l	
Degradability	Rapidly degradable	

M-TOLYLIDENE DIISOCYANATE

Solubility in water	0.1 mg/l	
Degradability	Inherently degradable	

MALEIC ANHYDRIDE

Solubility in water	> 10,000 mg/l	
Degradability	Inherently degradable	

Diphenylmethanediisocyanate, isomers and homologues

Degradability	NOT rapidly degradable	

reaction mass of ethylbenzene and m-xylene and p-xylene

Degradability	Inherently degradable	

Addition reaction products of conjugated sunflower-oil fatty acids and tall-oil fatty acids with maleic anhydride

Degradability	Inherently degradable	

12.3 Bioaccumulative potential

2-METHOXY-1-METHYLETHYL ACETATE

Partition coefficient n-octanol/water	1.2 LogKow

M-TOLYLIDENE DIISOCYANATE

Partition coefficient n-octanol/water	3.43 LogKow

MALEIC ANHYDRIDE

Partition coefficient n-octanol/water	-2.78 LogKow

Diphenylmethanediisocyanate, isomers and homologues

Bioconcentration factor	200
Partition coefficient n-octanol/water	4.51 LogKow

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

EWC: 080409*.

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.

Hazardous waste classification - Reg. (UE) 1357/2014
HP 3 – Flammable
HP 4 – Irritant — skin irritation and eye damage
HP 5 – Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP 6 – Acute Toxicity
HP 7 – Carcinogenic
HP 13 – Sensitising
HP 14 – Ecotoxic

Section 14 Transport information

14.1 UN number or ID number

ADR / RID	IMDG	IATA
UN 1866	UN 1866	UN 1866

14.2 UN proper shipping name

ADR / RID	RESIN SOLUTION
IMDG	RESIN SOLUTION
IATA	RESIN SOLUTION

14.3 Transport hazard class(es)

	Class	Label	
ADR / RID	3	3	

Section 14

	Class	Label	
IMDG	3	3	
IATA	3	3	

14.4 Packing group

ADR / RID	IMDG	IATA
III	III	III

14.5 Environmental hazards

ADR / RID	No	
IMDG	Not marine pollutant	
IATA	No	

14.6 Special precautions for user

ADR / RID			
Hazard identification No. - Kemler	30	Limited Quantities	5 L
Tunnel restriction code	(D/E)	Special provisions	
IMDG			
EmS	F-E, S-E	Limited Quantities	
IATA			
Maximum quantity (Cargo)	220 L	Packaging instructions (Cargo)	366
Maximum quantity (Passengers)	60 L	Packaging instructions (Passengers)	355
Special provisions	A3		

14.7 Maritime transport in bulk according to IMO instruments

Not applicable

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

	Restrictions	Registration Number EU
Product restrictions	3, 40	
Contained substance		
	74	
	75	
M-TOLYLIDENE DIISOCYANATE	74	
Diphenylmethanediisocyanate, isomers and homologues	74	

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

Not applicable

Section 15

Substances in Candidate List (Art. 59 REACH)	Registration Number EU
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)	Authorisation Number	Sunset date	Registration Number EU
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

Regulation (EU) 2019/1021 - on persistent organic pollutants

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.

VOC (Directive 2004/42/EC)

Binding primers.

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)

WGK2 – Hazard to waters

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:	
Acute Tox. 1	Acute toxicity, category 1
Acute Tox. 4	Acute toxicity, category 4
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
Asp. Tox. 1	Aspiration hazard, category 1
Carc. 2	Carcinogenicity, category 2
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Flam. Liq. 3	Flammable liquid, category 3
Resp. Sens. 1	Respiratory sensitization, category 1
Resp. Sens. 1B	Respiratory sensitization, category 1B
Skin Corr. 1B	Skin corrosion, category 1B
Skin Irrit. 2	Skin irritation, category 2
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1A	Skin sensitization, category 1A
Skin Sens. 1B	Skin sensitization, category 1B
STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3

Section 16

Text of hazard (H) indications mentioned in section 2-3 of the sheet:	
EUH204	Contains isocyanates. May produce an allergic reaction.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
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.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Legend

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EC50: Effective concentration (required to induce a 50% effect)
- EC: Identifier in ESIS (European archive of existing substances)
- 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

Section 16

General Bibliography

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 (EU) 2020/217 (XIV ATP CLP)
19. Delegated Regulation (EU) 2020/1182 (XV ATP CLP)
20. Delegated Regulation (EU) 2021/643 (XVI ATP CLP)
21. Delegated Regulation (EU) 2021/849 (XVII ATP CLP)
22. Delegated Regulation (EU) 2022/692 (XVIII ATP CLP)
23. Delegated Regulation (EU) 2023/707
24. Delegated Regulation (EU) 2023/1434 (XIX ATP CLP)
25. Delegated Regulation (EU) 2023/1435 (XX ATP CLP)
26. Delegated Regulation (EU) 2024/197 (XXI ATP CLP)
27. Delegated Regulation (EU) 2024/2564 (XXII ATP CLP)
28. Regulation (EU) 2024/2865
29. Delegated Regulation (EU) 2025/1222 (XXIII 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 from the previous revision

This SDS has been prepared with a different software from the one previous revision. The new calculation does not allow us to identify all the differences compared to the previous version. We therefore recommend carefully reviewing all 16 sections of the SDS. We remain available to provide any clarification regarding the content or the changes made compared to the previous version, which is available to professional or industrial users.