

SAPICI

POLURGREEN

Ultra Low Free Monomer Polyisocyanates

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SAPICI is a global leading company in high-performance polyurethanes for Coating, Adhesives, Sealants, Elastomers, Laminating adhesives, Inks, Prepolymers and more...

Sapici is one of the few companies capable to manage every kind of isocyanate: TDI, MDI, HDI, IPDI, H12MDI, XDI.

The company is able to achieve the ultra-low monomer content and has strong capabilities to produce blocked and silane-terminated isocyanates:

- High manufacturing ability & synthetic laboratory expertise
- Flexible pilot plant capabilities:
 - Laboratory scale (1-5 kg)
 - Micro-industrial plant (15-20 kg)
 - Pilot industrial batch (100-200 kg)
 - Industrial trial (5-10 tons)
- Steady and direct assistance to the customer
- Accurate production process to meet specific requests

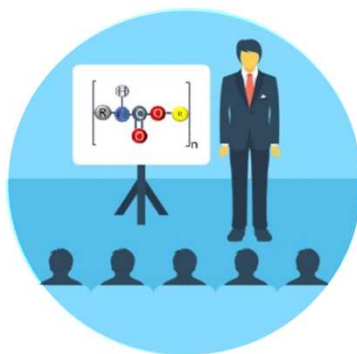
By combining advanced laboratories and highly qualified labor force, the company is able to completely characterize internal product and reference sample.



Adoption of the REACH restriction on diisocyanates



Professional training
(Employer responsibility)



Technical &
Organizational measures



Exemption
Free diisocyanates <0,1%

The n° 74 REACH restriction on diisocyanates was adopted during the REACH Committee on 4 February 2020 and published in the Official Journal on 3 August 2020.

This means that within 24 August 2023 diisocyanates shall not be used or placed on the market, as substance on its own or in a mixture, unless industrial or professional workers have completed appropriated training and a combination of technical and organizational measures have been implemented.

Starting from 24 February 2022 a phrase on the label will have to indicate the requirement of training.

This restriction doesn't apply to products containing free diisocyanates in a cumulative concentration less than 0,1% by weight.

TRAINING LEVEL	WORKERS INVOLVED	EXAMPLES	TRAINING CONTENTS
GENERAL	WORKERS WHO USE LOW RISK PRODUCTS FORMULATED WITH ISOCYANIC RESINS	ALL WORKERS	GENERAL
INTERMEDIATE	WORKERS WHO MANIPULATE ISOCYANIC RESINS	LABORATORY	<ul style="list-style-type: none"> - EQUIPMENT - BEHAVIOUR - INSTRUCTIONS - EVALUATION RISK
		PRODUCTION	
		APPLICATION IN PLANT	
ADVANCED	WORKERS WITH HIGH EXPOSITION	HOT MANIPULATION	<ul style="list-style-type: none"> - HANDLING OF INCOMPLETELY CURED ARTICLES - FOUNDRY APPLICATIONS - OPEN HANDLING OF HOT FORMULATIONS - SPRAYING IN OPEN AIR - EQUIPMENT USE - DERMAL EXPOSURE - INHALATION EXPOSURE
		PLANT MAINTENANCE	
		OUTDOOR SPRAY	

TYPE OF ISOCYANATE	STANDARD PRODUCTS	POLURGREEN
TDI	< 0,5 %	< 0,1 %
MDI	7 – 15 %	< 0,1 %
HDI	< 0,15	< 0,1 %

- ✓ Reactivity
- ✓ Resistance
 - mechanical (elongation and tensile strenght)
 - chemical agents
 - yellowing
- ✓ Viscosity

LABELLING DIFFERENCES

0,5% VS <0,1% polyisocyanates



DANGER

H334 – May cause allergy asthma symptoms or breathing difficulties if inhaled.

P304 + P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P342 + P311 – If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

EUH 204 – Contains isocyanates. May produce an allergic reaction

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

<0.1%



DANGER

~~H334 – May cause allergy asthma symptoms or breathing difficulties if inhaled.~~

~~P304 + P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.~~

~~P342 + P311 – If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.~~

EUH 204 – Contains isocyanates. May produce an allergic reaction

Mandatory starting from 22/02/2022

PRODUCT	% NV	Solvent	Type	Type Of Isocyanate	% Monomer	%NCO	Vx mPa*s @ 23°C
POLURGREN AD 01	75	EA	Aromatic adduct	TDI	<0,1	12,5-13,5	1200– 300
POLURGREN AD 67 01	67	MPA/X	Aromatic adduct	TDI	<0,1	11,0-12,0	800-2200
POLURGREN AD BA 01	67	BA	Aromatic adduct	TDI	<0,1	11,5-12,1	400 - 800
POLURGREN 60T 01	60	BA	Aromatic adduct	TDI	<0,1	9,5-9,9	1200 - 2000
POLURGREN IR 01	50	BA	Aromatic trimer	TDI	<0,1	7,7-8,1	700 - 1400
POLURGREN SB 50 BA 01	50	BA	Aromatic trimer	TDI	<0,1	7,6-8,4	300 - 900
POLURGREN OK 01	60	BA	Aromatic/Aliphatic trimer	TDI-HDI	<0,1	9,8-10,3	500 - 1100
POLURGREN FP 75 01	75	EA	Aromatic adduct	TDI	<0,1	12,5-13,5	1200 - 3000

PRODUCT	MAIN APPLICATION
POLURGREN AD 01	Polyurethane adduct for general purposes. Suitable for 2K varnishes and enamels . It imparts good flexibility, fullness, brightness and solvent resistance.
POLURGREN AD 67 01	Polyurethane adduct for general purposes. Suitable for 2K varnishes and enamels . It imparts good flexibility, fullness, brightness and solvent resistance.
POLURGREN AD BA 01	Polyurethane adduct for general purposes. Suitable for 2K varnishes and enamels . It imparts good flexibility, fullness, brightness and solvent resistance.
POLURGREN 60T 01	High versatile polyisocyanate used for the formulation of polyurethane sealers and topcoats . It gives the right balance between <u>fast drying and long pot-life</u> .
POLURGREN IR 01	Fast drying hardener for 2K PU system with limited yellowing. Suitable for the formulation of sealers and matt topcoats . It gives hardness to the final coating.
POLURGREN SB 50 BA 01	Fast drying hardener with <u>extended pot life</u> , for 2K PU system with limited yellowing. Suitable for the formulation of sealers and matt topcoats . It gives hardness to the final coating.
POLURGREN OK 01	Aromatic-aliphatic hardener with <u>good yellowing resistance</u> . Suitable for polishable varnishes and enamels give to the final coating excellent hardness and good elasticity.
POLURGREN FP 75 01	Polyurethane adduct version in accordance with EU, BFR and FDA regulations for food packaging .

ALIPHATIC POLYISOCYANATES RANGE



PRODUCT	% NV	Solvent	Type	Type Of Isocyanate	% Monomer	%NCO	Vx mPa*s @ 23°C
POLURGREN XP 1830 01	80	BA	Aliphatic prepolymer	HDI	<0,1	13,2-14,2	300 - 1200
POLURGREN MT 75 01	75	MPA/X	Aliphatic trimer	HDI	<0.1	16,0-17,0	50 - 200
POLURGREN MT 90 01	90	BA/N	Aliphatic trimer	HDI	<0.1	19,1-20,5	400 - 700
POLURGREN MT 90 BA 01	90	BA	Aliphatic trimer	HDI	<0.1	19,1-20,5	400 - 700
POLURGREN MT 100 01	100		Aliphatic trimer	HDI	<0.1	21,5-22,5	1800 - 3300
POLURGREN MT 100 LV 01	100		Aliphatic trimer	HDI	<0.1	22,0-23,0	900 - 1500
POLURGREN MT 100 LLV 01	100		Aliphatic trimer	HDI	<0.1	22,0-24,0	550 - 850

PRODUCT	MAIN APPLICATION
POLURGREEN XP 1830 01	Low monomer aliphatic polyisocyanate with high toughness and <u>compatibility</u> . Suitable for the formulation of no yellowing 2K PU coating and stoving enamel.
POLURGREEN MT 75 01	Low monomer version of Polurene MT 75, aliphatic polyisocyanate with high toughness. Suitable for the formulation of no yellowing 2K PU coating and stoving enamel
POLURGREEN MT 90 01	Low monomer version of Polurene MT 90, aliphatic trimer with high toughness. Suitable for the formulation of no yellowing 2K PU coating and stoving enamel.
POLURGREEN MT 90 BA 01	Low monomer version of Polurene MT 90, aliphatic trimer with high toughness. Suitable for the formulation of no yellowing 2K PU coating and stoving enamel.
POLURGREEN MT 100 01	Low monomer version of Polurene MT 100, aliphatic trimer with high toughness. Suitable for the formulation of no yellowing 2K PU coating and stoving enamel.
POLURGREEN MT 100 LV 01	Low monomer version of Polurene MT 100 LV, <u>low viscosity</u> version of the aliphatic trimer. Suitable for the formulation of no yellowing 2K PU coating and stoving enamel.
POLURGREEN MT 100 LLV 01	Low monomer version of Polurene MT 100 LLV, <u>ultra low viscosity</u> version of the aliphatic trimer. Suitable for the formulation of no yellowing 2K high solid PU coating and stoving enamel.

AROMATIC PREPOLYMERS RANGE



PRODUCT	% NV	Solvent	Type	Type Of Isocyanate	% Monomer	%NCO	Vx mPa*s
POLURGREEN MC 5860 MPAX 01	60	MPA/X	Aromatic	TDI	<0,1	7,0-8,0	600 – 1600 @ 23°C
POLURGREEN PRP 350 01	100		Aromatic	TDI	<0,1	3,0 – 4,0	5000 – 9000 @ 23°C
POLURGREEN PRP 450 01	100		Aromatic	TDI	<0,1	4,0 – 5,0	5000 – 9000 @ 23°C
POLURGREEN PRP 750 01	100		Aromatic	TDI	<0,1	7,0 – 8,0	6000 - 12000 @ 40°C
POLURGREEN PRP 940 01	100		Aromatic	TDI	<0,1	8,9 – 9,7	4000 - 10000 @ 40°C
POLURGREEN PRP F 930 01	100		Aromatic	TDI	<0,1	8,8 – 9,7	10000 - 20000 @ 50°C
POLURGREEN PRP 5500 01	100		Aromatic	TDI	<0,1	2,0 – 3,0	3500 - 8500 @ 23°C

PRODUCT	MAIN APPLICATIONS
POLURGREEN MC 5860 MPAX 01	Moisture curing clear paints for wood and primers for concrete
POLURGREEN PRP 350 01	Water proofing membrane
POLURGREEN PRP 450 01	Water proofing membrane and adhesive
POLURGREEN PRP 750 01	Adhesive and water proofing membrane
POLURGREEN PRP 940 01	Adhesive and primer
POLURGREEN PRP F 930 01	Spray polyurethane foam
POLURGREEN PRP 5500 01	2K Sealant and joint filler

ALIPHATIC PREPOLYMERS RANGE



PRODUCT	% NV	Solvent	Type	Type Of Isocyanate	% Monomer	%NCO	Vx mPa*s
POLURGREN MC 1180 MPA 01	80	MPA	Aliphatic	HDI	<0,1	10,5 – 12,5	400 – 1000 @ 23°C
UCOPOL W 712	100		Aliphatic	HDI	<0,1	13,5 – 14,5	2500 – 4500 @ 23°C
POLURGREN PRP 4041 01	100		Aliphatic	HDI	<0,1	9,0 – 10,0	1500 - 3500 @ 23°C

PRODUCT	MAIN APPLICATIONS
POLURGREEN MC 1180 MPA 01	Moisture curing clear paints for wood, and concrete with good light fastness. Binder for stone carpets
UCOPOL W 712	Binder for stone carpets
POLURGREEN PRP 4041 01	Electrical Insulating Materials – color stable elastomeric castings and membranes

HYDRODISPERSIBLE RANGE



PRODUCT	% NV	Solvent	Type	Type Of Isocyanate	% Monomer	%NCO	Vx mPa*s
HYDRORENE AW 1 01	100		Aliphatic	HDI	<0.1	16.0 – 18.0	2000 – 4000 @ 23°C
HYDRORENE AW 4 01	100		Aliphatic	HDI	<0.1	20.0 – 21.0	1000 – 3000 @ 23°C
HYDRORENE AW 5 01	100		Aliphatic	HDI	<0.1	15,5 – 16,5	5000 - 9000 @ 23°C
HYDRORENE AW 6 01	100		Aliphatic	HDI	<0.1	22.0 – 24.0	550 - 850 @ 23°C
HYDRORENE AW 65 PMA 01	65	PMA	Aliphatic	HDI	<0.1	10,0 – 11,0	50 - 200 @ 23°C
HYDRORENE AW 65 DPGDME 01	65	DPGDME	Aliphatic	HDI	<0.1	10,0 - 110	50 - 200 @ 23°C

PRODUCT	MAIN APPLICATIONS
HYDRORENE AW 1 01	2K Water based primers and top coats
HYDRORENE AW 4 01	2K Water based primers and top coats for industrial and building application
HYDRORENE AW 5 01	2K Water based primers and top coats for wood
HYDRORENE AW 6 01	2K Water based primers and top coats for industrial and building application. Ready to use
HYDRORENE AW 65 PMA 01	2K Water based primers and top coats for wood. Fast solvent evaporation. Ready to use
HYDRORENE AW 65 DPGDME 01	2K Water based primers and top coats for wood. Nor flammable and low odour. Ready to use

BLOCKED RANGE



PRODUCT	% NV	Solvent	Type	Type Of Isocyanate	% Monomer	%NCO	Vx mPa*s
POLURGREN LP 100 LV	100		Aromatic	TDI	<0,1	2.1	15000 - 25000 @ 23°C
POLURGREN LP 100 LH	100		Aromatic	TDI	<0,1	2.1	20000 - 45000 @ 23°C
POLURGREN LP 90 LH	90	10% DOA	Aromatic	TDI	<0,1	1,9	6000 - 14000 @ 23°C
POLURENE BK 5250 MPA EA	50	MPA EA	Aromatic	TDI	<0,1	6.0 – 6.5	<100 @ 23°C

PRODUCT	MAIN APPLICATIONS
POLURGREEN LP 100 LV	2K adhesives and sealants
POLURGREEN LP 100 LH	2K adhesives and sealants
POLURGREEN PL 90 LH	2K adhesives and sealants
POLURENE BK 5250 MPA EA	Baking coatings and adhesives for PVC, fabrics, textile, and coil

PRODUCT	% NV	Solvent	Type	Type Of Isocyanate	% Monomer	%NCO	Vx mPa*s
POLURGREN FP 75 01 K	75	EA	Aromatic	TDI	<0.1	12,5 – 13,5	1200 – 3000 @ 23°C
POLURGREN IR 51 01 K	50	EA	Aliphatic	TDI	<0.1	6,9 – 7,9	400 – 1000 @ 23°C
POLURGREN OK 01 K	60	EA	Aromatic/Aliphatic	TDI/HDI	<0,1	9,5 – 10,5	350 – 850 @ 23°C

PRODUCT	MAIN APPLICATIONS
POLURGREEN FP 75 01 K	Adhesion promoter or hardener for 2K inks or OPV. <u>Elastomeric properties</u>
POLURGREEN IR 51 01 K	Fast curing 2K OPV. <u>Crystalline properties</u>
POLURGREEN OK 01 K	Low yellowing 2K OPV.

PRODUCT	% NV	Solvent	Type	Type Of Isocyanate	% Monomer	%NCO	Vx mPa*s
UNI-DUR WB 7000 01	100		Aliphatic	HDI	<0.1	16.0 – 18.0	2000 – 4000 @ 23°C
UNI-DUR WB 8000 01	100		Aliphatic	HDI	<0.1	20.0 – 21.0	1000 – 3000 @ 23°C

FOR MORE DETAILS YOU CAN CONSULT:

<https://www.sapici.it/european-diisocyanates-restriction-sapici-positioning-and-recommendations/>





https://www.sapici.it/wp-content/uploads/2020/02/SAPICI_brochureFULL_ENGLISH_MedRes144dpi_Feb20.pdf

Headquarter

Plant I

Plant II

Oversea plant

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A word cloud featuring the phrase "Thank you" in numerous languages. The central and largest text is "Thank you" in a light blue font. Surrounding it are various translations in different colors and sizes, including: "dar" (Persian), "na takk" (Hindi), "grazie" (Italian), "hvala" (Slovene), "dziękuję" (Polish), "de kiitos" (Finnish), "a dar" (Persian), "mal tani" (Vietnamese), "dank u" (Dutch), "gràcies" (Catalan), "tack" (Swedish), "благодаря" (Russian), "köszönöm" (Hungarian), "kasih" (Indonesian), "terima kasih" (Malay), "dhanyavād" (Urdu), "teşekkür ederim" (Turkish), "aciü" (Arabic), "shukran" (Arabic), "obrigado" (Portuguese), "dakujem" (Slovak), "ong" (Tagalog), "es" (Spanish), "Cunphawlawluenlu" (Burmese), "Mh'göi" (Mongolian), and "תודה" (Hebrew).