Safety data sheet (English translation without any country-specific legislation)
according to Regulation (EC) No 1907/2006, Article 31

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

· **1.1 Product identifier**
· **Trade name: PIXEL PRECISION comp B**
· **Chemical Identification:** HDI oligomers, isocyanurate
· **CAS Number:**
28182-81-2
· **EC number:**
931-274-8
· **Registration number** 01-2119485796-17-XXXX

· **1.2 Relevant identified uses of the substance or mixture and uses advised against** Two-component adhesive.

· **Application of the substance / the mixture** Catalyst for Pixel precision part A

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Litokol Lab S.p.A.
Via G.Falcone, 13/1
42048 Rubiera (RE) - Italia
Tel. +39 0522 626391 - Fax. +39 0522 620150

· **Further information obtainable from:** Litokol Lab S.p.A. - Email: productsafety@litokol.com

· **1.4 Emergency telephone number:**
ITALY - POISONS CENTRES (24h / 365d):
• Milano - Azienda Ospedaliera Niguarda Ca' Granda - Tel. +39 02 66101029
• Pavia - Centro Nazionale d'Informazione Tossicologica - IRCCS Fondazione Salvatore Maugeri Clinica del Lavoro e della riabilitazione - Tel. +39 0382 24444
• Firenze - Azienda Ospedaliera Universitaria "Careggi" U.O. Tossicologia Medica - Tel. +39 055 7947819
• Bergamo - Azienda Ospedaliera "Papa Giovanni XXIII", tossicologia clinica - Tel. +39 800 883300
• Roma - CAV Policlinico "Umberto I", PRGM tossicologia d'urgenza - Tel. +39 06 49978000
• Roma - CAV del Policlinico "Agostino Gemelli", Servizio di tossicologia clinica - Tel. +39 06 3054343
• Roma - CAV "Ospedale Pediatrico Bambino Gesù", dipartimento emergenza e accettazione DEA - Tel. +39 06 68593726
• Foggia - Azienda Ospedaliera Universitaria riuniti, Foggia - Tel. +39 800 183459
• Napoli - Azienda Ospedaliera "Antonio Cardarelli", III Servizio di anestesia e rianimazione - Tel. +39 081 5453333
• Verona - CAV dell'Azienda ospedaliera integrata (AOUI) di Verona sede di Borgo Trento - Tel. +39 800 011858

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**
Acute Tox. 4 H332 Harmful if inhaled.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.
· **Hazard pictograms**

GHS07

· **Signal word** Warning
· **Hazard statements**
H332 Harmful if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
· **Precautionary statements**
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves.
P312 Call a POISON CENTER/doctor if you feel unwell.

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P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** The mixture does not contain substances that pose such a hazard at concentrations >0.1%.
· **vPvB:** The mixture does not contain substances that pose such a hazard at concentrations >0.1%.
· **Determination of endocrine-disrupting properties**
The mixture does not contain substances that pose such a hazard at concentrations >0.1%.

SECTION 3: Composition/information on ingredients

· **3.1 Substances**
· **CAS No. Description**
CAS: 28182-81-2 HDI oligomers, isocyanurate
· **Identification number(s)**
· **EC number:** 931-274-8
· **Additional information:** See ATE values in section 11.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:** Do not induce vomiting; call for medical help immediately.

· **4.2 Most important symptoms and effects, both acute and delayed**
Headache
Breathing difficulty
Asthma attacks
Disorientation
Dizziness
Unconsciousness

· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:**
Use fire extinguishing methods suitable to surrounding conditions.
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
Nitrogen oxides
Hydrogen cyanide (HCN)
Carbon monoxide (CO)

· **5.3 Advice for firefighters**
· **Protective equipment:** Do not inhale explosion gases or combustion gases.
· **Additional information**
Cool endangered receptacles with water spray.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.

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· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**
Pick up mechanically.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.

· **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Use only in well ventilated areas.
Keep away from heat and direct sunlight.
· **Information about fire - and explosion protection:**
The product is not flammable.
No special measures required.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from water.
· **Further information about storage conditions:**
Store receptacle in a well ventilated area.
Store in a cool place.
Store in dry conditions.
Protect from frost.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**
· **Ingredients with limit values that require monitoring at the workplace:** Not required.

· **DNELs**		
CAS: 28182-81-2 HDI oligomers, isocyanurate		
Inhalative	DNEL / Long term exposure - Local effects	0.5 mg/m³ (workers)
	DNEL / Short term exposure - Local effects	1 mg/m³ (workers)

· **PNECs**	
CAS: 28182-81-2 HDI oligomers, isocyanurate	
PNEC / water	0.127 mg/l (freshwater)
	1.27 mg/l (Intermittent releases (freshwater))
	0.0127 mg/l (marine water)
	88 mg/l (sewage treatment plant)
PNEC / sediment	266,701 mg/Kg dw (freshwater)
	26,670 mg/Kg dw (marine water)
PNEC / soil	53,183 mg/Kg dw

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· **Appropriate engineering controls** Ensure good ventilation in the workplace.
· **Individual protection measures, such as personal protective equipment**
· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Do not eat or drink while working.
Keep away from tobacco products.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.

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· **Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.

Short term filter device:
Filter A
Filter A/P2

· **Hand protection**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**
Nitrile rubber, NBR
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 16523-1:2015: Level 5).

· **Eye/face protection** Goggles recommended.
· **Body protection:** Light weight protective clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Physical state**	Liquid
· **Colour:**	Colourless
· **Odour:**	Characteristic
· **Odour threshold:**	Not determined.
· **Melting point/freezing point:**	-51.3--28.4 °C
· **Boiling point or initial boiling point and boiling range**	>220 °C
· **Flammability**	Product is not flammable.
· **Lower and upper explosion limit**	
· **Lower:**	Not determined.
· **Upper:**	Not determined.
· **Flash point:**	228 °C
· **Auto-ignition temperature:**	Not determined.
· **Decomposition temperature:**	Not applicable. Mixture is not self-reactive, does not contail organic peroxide and does not decompose under foreseen conditions of use
· **pH**	Not determined. Mixture is non-polar/aprotic.
· **Viscosity:**	
· **Kinematic viscosity at 20 °C**	3320 mm²/s
· **Dynamic at 20 °C:**	3851.69 mPas
· **Solubility**	
· **water:**	Insoluble.
· **Partition coefficient n-octanol/water (log value)**	9.81
· **Vapour pressure at 20 °C:**	0.002 Pa
· **Density and/or relative density**	
· **Density at 20 °C:**	1.16 g/cm³
· **Relative gas density**	Not determined.
· **Particle characteristics**	Fluid

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· **9.2 Other information**
· **Appearance:**
· **Form:** Fluid
· **Important information on protection of health and environment, and on safety.**
· **Explosive properties:** Product does not present an explosion hazard.
· **Solvent content:**
· **VOC (EC)** 0.00 %
· **Change in condition**
· **Evaporation rate** Not determined.

· **Information with regard to physical hazard classes** Void

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No dangerous reactions known.

· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
No decomposition if used and stored according to specifications.
To avoid thermal decomposition do not overheat.

· **10.3 Possibility of hazardous reactions** Reacts with water.

· **10.4 Conditions to avoid**
Protect from humidity and water.
Keep ignition sources away - Do not smoke.

· **10.5 Incompatible materials:**
Store away from water.
Reacts with acids, alkalis and oxidising agents.

· **10.6 Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)
Hydrogen cyanide (prussic acid)

SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity** Harmful if inhaled.

· **LD/LC50 values relevant for classification:**

CAS: 28182-81-2 HDI oligomers, isocyanurate

Oral	LD50	>2,500 mg/kg (rat) (OECD TG 423: Acute Oral toxicity - Acute Toxic Class Method)
Dermal	LD50	>2,000 mg/kg (rat) (OECD TG 202: Daphnia sp. Acute Immobilisation Test)
Inhalative	LC50	1.5 mg/l/4h (ATE)

· **Primary irritant effect:**
· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation** May cause an allergic skin reaction.
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure** May cause respiratory irritation.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.
· **11.2 Information on other hazards**

· **Endocrine disrupting properties**
Substance is not listed.

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SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

CAS: 28182-81-2 HDI oligomers, isocyanurate

EC50 / 48h	>127 mg/l (crustacea - Daphnia magna) (EU Method C.2: Acute Toxicity for Daphnia)
LC50 / 96h	>100 mg/l (fish - Brachydanio rerio) (EU Method C.1: Acute Toxicity for Fish)
ErC50 / 72h	>1,000 mg/l (algae - Desmodesmus subspicatus) (OECD TG 201: Alga, Growth Inhibition Test)

· **12.2 Persistence and degradability**

CAS: 28182-81-2 HDI oligomers, isocyanurate

Ready Biodegradability / 28d	1 % (OECD TG 301 D: Closed Bottle)

· **Other information:** The product is not easily biodegradable.

· **12.3 Bioaccumulative potential**

CAS: 28182-81-2 HDI oligomers, isocyanurate

log Kow	9.81
BCF	141 /L/kg ww

· **12.4 Mobility in soil** No further relevant information available.

· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

· **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

· **12.7 Other adverse effects**
· **Additional ecological information:**
· **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Disposal must be made according to official regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN number or ID number**	
· **ADR/RID/ADN, IMDG, IATA**	Void
· **14.2 UN proper shipping name**	
· **ADR/RID/ADN, IMDG, IATA**	Void
· **14.3 Transport hazard class(es)**	
· **ADR/RID/ADN, ADN, IMDG, IATA**	
· **Class**	Void
· **14.4 Packing group**	
· **ADR/RID/ADN, IMDG, IATA**	Void
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user**	Not applicable.
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **UN "Model Regulation":**	Void

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SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
Regulation (EC) No 1907/2006 (REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals)
Regulation (EC) No 1272/2008 (CLP - Classification, Labelling and Packaging of substances and mixtures)
Compilation of Safety Data Sheet: Reg.UE n. 878/2020 (amending Reg.EC n.1907/2006, Annex II)

· **REACH**
· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** Substance is not listed.

· **REGULATION (EC) No 273/2004 on drug precursors**
Substance is not listed.

· **REGULATION (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
Substance is not listed.

· **REGULATION (EU) 2019/1148**

· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
Substance is not listed.

· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**
Substance is not listed.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Contact:** Litokol Lab S.p.A.
· **Abbreviations and acronyms:**
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
CLP: Classification, Labelling and Packaging
TLV: Threshold Limit Value
TLV-TWA: Threshold Limit Value - Time Weighted Average
TLV-STEL: Threshold Limit Value - Short Term Exposure Limit
PEL: Permissible Exposure Limits (Limiti di esposizione consentiti)
REL: Recommended Exposure Limits (Limiti di esposizione raccomandati)
IOELV: Indicative Occupational Exposure Limit Value
WEELs: Workplace Environmental Exposure Limits (Limiti di esposizione ambientale sul posto di lavoro)
BEI: Biological Exposure Indices
LC50: Lethal Concentration, 50 percent
EC50: Effective Concentration, 50 percent
ErC50: Effective Concentration, 50 percent, reduction of growth rate
NOEC: No-Observed Effect Concentration
NOELR: No-Observed Effect Loading Rate
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity – Category 4
Skin Sens. 1: Skin sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3