Safety data sheet
according to Regulation (EU) 2015/830

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

· **1.1 Product identifier**

· **Trade name: VELVET IMPROVER**

· **Article number:** 506367
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
Crosslinker for waterborne finishes
· **Manufacturer/Supplier:**

VERMEISTER S.p.A.
Loc. Fornaci
I-24050 Mornico al Serio (Bergamo)
Tel.+39/035.4428190 Fax:+39/035.4428075

· **Further information obtainable from:** roberta.fracchiolla@vermeister.com
· **1.4 Emergency telephone number:** +39/035 4428190

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**
The product is classified according to Reg (EC) No 1272/2008

GHS07

Acute Tox. 4	H312	Harmful in contact with skin.
Acute Tox. 4	H332	Harmful if inhaled.
Eye Irrit. 2	H319	Causes serious eye irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction.
STOT SE 3	H335	May cause respiratory irritation.
Aquatic Chronic 3	H412	Harmful to aquatic life with long lasting effects.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
· **Hazard pictograms** GHS07
· **Signal word** Warning

· **Hazard-determining components of labelling:**
1,6-hexamethylene diisocyanate homopolymer
cyclohexyldimethylamine
hexamethylene-di-isocyanate
· **Hazard statements**
H312+H332 Harmful in contact with skin or if inhaled.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.
· **Precautionary statements**
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321 Specific treatment (see on this label).

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P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**
· **Description:**
Mixture of hazardous substances according to Reg. (EC) No. 1272/2008 and /or substances with a Community workplace exposure limit and/or substances classified as PBT/vPvB or included in Candidate List listed below

· **Dangerous components:**		
CAS: 28182-81-2 Reg.nr.: 01-2119485796-17	1,6-hexamethylene diisocyanate homopolymer Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335; Aquatic Chronic 3, H412	50-100%
CAS: 9046-01-9	Polyethyleneglycol tridecylether phosphate Eye Dam. 1, H318; Aquatic Chronic 2, H411; Skin Irrit. 2, H315	≤2.5%
CAS: 98-94-2 EINECS: 202-715-5	cyclohexyldimethylamine Flam. Liq. 3, H226; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Met. Corr.1, H290; Skin Corr. 1B, H314; Aquatic Chronic 2, H411	≤1%
CAS: 822-06-0 EINECS: 212-485-8 Reg.nr.: 01-2119457571-37	hexamethylene-di-isocyanate Resp. Sens. 1, H334; Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	≤1%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· **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.
· **After eye contact:** Rinse opened eye for several minutes under running water.
· **After swallowing:** If symptoms persist consult doctor.
· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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SECTION 5: Firefighting measures

· ***5.1 Extinguishing media***
· ***Suitable extinguishing agents:*** *Use fire extinguishing methods suitable to surrounding conditions.*
· ***5.2 Special hazards arising from the substance or mixture*** *No further relevant information available.*
· ***5.3 Advice for firefighters***
· ***Protective equipment:*** *Mouth respiratory protective device.*

SECTION 6: Accidental release measures

· ***6.1 Personal precautions, protective equipment and emergency procedures*** *Not required.*
· ***6.2 Environmental precautions:*** *Do not allow to enter sewers/ surface or ground water.*
· ***6.3 Methods and material for containment and cleaning up:***
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 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*** *Prevent formation of aerosols.*
· ***Information about fire - and explosion protection:*** *No special measures required.*

· ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage:***
· ***Requirements to be met by storerooms and receptacles:*** *No special requirements.*
· ***Information about storage in one common storage facility:*** *Not required.*
· ***Further information about storage conditions:*** *Keep container tightly sealed.*
· ***7.3 Specific end use(s)*** *No further relevant information available.*

SECTION 8: Exposure controls/personal protection

· ***Additional information about design of technical facilities:*** *No further data; see item 7.*

· ***8.1 Control parameters***

· ***Ingredients with limit values that require monitoring at the workplace:***	
822-06-0 hexamethylene-di-isocyanate	
WEL	*Short-term value: 0.07 mg/m³* *Long-term value: 0.02 mg/m³* *Sen; as -NCO*

· ***DNELs***		
28182-81-2 1,6-hexamethylene diisocyanate homopolymer		
Inhalative	*DNEL Long-term-systemic effects*	*0.5 mg/m3 (Workers)*
822-06-0 hexamethylene-di-isocyanate		
Inhalative	*DNEL systemic (acute)*	*0.07 mg/m3 (Workers)*

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	DNEL Long-term-systemic effects	35 mg/m3 (Workers)

· **PNECs**

28182-81-2 1,6-hexamethylene diisocyanate homopolymer	
PNEC	266,700 mg/Kg d.w. (Fresh water sediment)
	53,200 mg/Kg d.w. (Soil)
PNEC	38.28 mg/l (STP)
	127 mg/l (Fresh water)
	0.0127 mg/l (Marine water)
822-06-0 hexamethylene-di-isocyanate	
PNEC	>0.01334 mg/Kg d.w. (Fresh water)
	>0.001334 mg/Kg d.w. (Marine sediment)
	>0.0026 mg/Kg d.w. (Soil)
PNEC	8.42 mg/l (STP)

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

· **8.2 Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
· **Respiratory protection:**

Not necessary in well-ventilated environments. In the case of insufficient ventilation, use a mask with a filter type A (EN 14387).

· **Protection of hands:**

Use protective gloves that guarantee complete protection in compliance with standard EN 374.

· **Material of gloves** PVC, neoprene or rubber
· **Eye protection:**

If there is a risk of spray, wear safety spectacles.
Eye protection must meet standard EN 166.

· **Body protection:**
No special precautions are required. In any case, wear clothing in cotton or rubber, for example, that guarantees complete protection of the skin.
· **Risk management measures**
All the personal protective equipment must comply with the European reference standards (such as EN 374 for the gloves, EN 166 for the safety spectacles and EN14387 for the safety mask). Such equipment must be kept in good working order and stored appropriately. The service life of the protective equipment against chemical agents depends on various factors (type of use, climate factors and methods of storage), which may considerably reduce the service life envisaged by the EN standards. Always consult the supplier of the protective equipment. Instruct the worker on how to use the equipment provided.
Thermal risks: None

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Environmental exposure controls: None

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Colour:	Colourless
· **Odour:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value at 20°C:**	7.5
· **Change in condition**	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	175°C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Ignition temperature:**	165°C
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapour pressure at 20°C:**	70 hPa
· **Density at 20°C:**	1.06 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic at 20°C:	25 s (ISO 4 mm)
· **9.2 Other information**	See the product label for information on the provisions of Directive 2004/42/EC about VOCs (if applicable).

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions** No dangerous reactions known.
· **10.4 Conditions to avoid** No further relevant information available.

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· **10.5 Incompatible materials:** No further relevant information available.
· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity**
Harmful in contact with skin or if inhaled.

· **LD/LC50 values relevant for classification:**		
28182-81-2 1,6-hexamethylene diisocyanate homopolymer		
Oral	LD50	>5,000 mg/kg (rat) (OECD TG 423)
Dermal	LD50	>2,000 mg/kg (rat) (OECD TG 402)
Inhalative	LC50/4 h	0.39 mg/l (rat) (OECD TG 403)
	EC50	>10,000 mg/l (Bacteria (activated sludges)) (OECD TG 209)
822-06-0 hexamethylene-di-isocyanate		
Oral	LD50	738 mg/kg (rat)
Dermal	LD50	593 mg/kg (rat)

· **Primary irritant effect:**
· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation**
Causes serious eye irritation.
· **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **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.

SECTION 12: Ecological information

Ecological data about the product: not available.

· **12.1 Toxicity**

· **Aquatic toxicity:**	
28182-81-2 1,6-hexamethylene diisocyanate homopolymer	
EC10 (72h)	370 mg/l (Desmodesmus subspicatus)
EC50 (3h)	>0.1 g/l (Bacteria)
EC50 (48h)	>100 mg/l (Daphnia magna) (OECD TG 202)
EC50 (72h)	>100 mg/l (Algae) (OECD TG 201)
	>100 mg/l (Scenedesmus subspicatus)
LC50 (96h)	>100 mg/l (Danio rerio)
	42.2 mg/l (Fish) (OECD TG 203)

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822-06-0 hexamethylene-di-isocyanate	
EC50 (3h)	842 g/l (Bacteria)

· **12.2 Persistence and degradability**

28182-81-2 1,6-hexamethylene diisocyanate homopolymer	
Biodegradability	1 % (/)

· **12.3 Bioaccumulative potential**

28182-81-2 1,6-hexamethylene diisocyanate homopolymer	
BCF (Bioconcentration factor)	3.2 (/)

· **12.4 Mobility in soil** No further relevant information available.
· **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.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
· **Uncleaned packaging:** Empty containers should be disposed or recovered.
· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN-Number**	
· **ADR, IMDG, IATA**	Void
· **14.2 UN proper shipping name**	
· **ADR**	Void
· **IMDG, IATA**	Void
· **14.3 Transport hazard class(es)**	
· **ADR, ADN**	
· **Class**	Void
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	Void
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	No
· **14.6 Special precautions for user**	Not applicable.
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.

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· ***UN "Model Regulation":*** *Void*

SECTION 15: Regulatory information

· ***Safety, health and environmental regulations/legislation specific for the substance or mixture***
Reg. (EC) No.1907/2006 (REACH) and further modifications;
Reg. (EC) No. 1272/2008 (CLP) and further modifications;
Dir. 2004/42/EC (VOC), if applicable.
· ***Chemical safety assessment*** *not available*

· ***Directive 2012/18/EU***
· ***Named dangerous substances - ANNEX I*** *None of the ingredients is listed.*
· ***REGULATION (EC) No 1907/2006 ANNEX XVII*** *Conditions of restriction: 3*

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.

· ***Relevant phrases***
H226 Flammable liquid and vapour.
H290 May be corrosive to metals.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic 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.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.
· ***Abbreviations and acronyms:***
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport 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
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
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

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Flam. Liq. 3: Flammable liquids – Category 3
Met. Corr.1: Corrosive to metals – Category 1
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3