HARDENER PUR-1

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Safety Data Sheet

legal basis:

Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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

1.1.Product ID

Trade name: Hardener for polyurethane products AQUAPUR

Label composition/Other names Aliphatic polyisocyanate.,

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

Identified uses
Industrial applications:

Hardener intended for water-soluble polyurethane products as the second component added immediately before painting.
For professional use.

Uses advised against: No information available.

1.3. Details of the supplier of the safety data sheet

Name and address: PIGMENT Sp.j. ul. Pyrzycka 23 A, 70-892 Szczecin Poland +48 91 462

Phone number: 10 20 +48 91 462 11

86 biuro@farbypigment.pl

e-mail address: of the competent person responsible for the safety data sheet:

1.4. Emergency telephone number

998 or 112 or the nearest local PSP unit

SECTION 2: Hazard identification

2.1.Classification of the substance or mixture

General threats
The product is classified as hazardous under applicable regulations.

Health hazards

Acute Tox. 4	Acute toxicity (inhalation), cat.4	H332 Harmful if inhaled.
Skin Sens. 1	Skin sensitization, cat.1	H317 May cause an allergic skin reaction.
STOT SE 3	Specific target organ toxicity – single exposure, cat.3	H335 May cause respiratory irritation

Physical hazards

not applicable

Environmental hazards

Aquatic Chronic 3	Posing a hazard to the aquatic environment, chronic hazard, cat.3	H412 Harmful to aquatic life with long lasting effects.

2.2.Labeling elements

Hazard pictogram(s):

Signal word:

Attention

Hazard statement(s):

H332 Harmful if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation
H412 Harmful to aquatic life with long lasting effects.

EUH Phrases
EUH204 Contains isocyanates. May produce an allergic reaction

Precautionary Statement(s): P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment P280
Wear protective gloves/protective clothing/eye protection/face protection.
P312 Call a POISON CENTER/doctor/… if you feel unwell.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.

2.3.Other hazards The product does not meet the PBT or vPvB criteria in accordance with Annex XIII of Regulation (EC) No. 1907/2006.

SECTION 3: Composition/information on ingredients 3.1.Substances

Substance	CAS	WE	Index number	REACH registration number	Hazard class	Specific concentration limits, M-factors and ATE	Concentration value
90 - 100% Aliphatic Polyisocyanate	160994-68-3	679-501-7	not applicable	01-2119457571-37-XXXX	Acute Tox. 4 H332 STOT SE 3 H335 Skin Sens. 1 H317 Aquatic Chronic 3 H412		
< 0.15% Hexamethylene diisocyanate	822-06-0	212-485-8	615-011-00-1	01-2119457571-37-XXXX	Acute Tox. 4 Resp. Sens. 1, H334 H330 Skin Irrit. 2 H315 Eye Irrit. 2 H319 STOT SE 3 H335 Acute Tox. 4 H302 Resp. Sens. 1 H334 Skin Sens. 1 H317	>= 0,5 % Skin Sens. 1, H317 >= 0,5 %	

For the full text of the H-phrases mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures Inhalation
If breathing is irregular or has stopped, apply artificial respiration. Get medical attention immediately.
Skin contact
Remove contaminated clothing immediately. Wash immediately with soap and plenty of water.
Eye contact Rinse immediately with plenty of water and seek medical advice.
Ingestion
DO NOT induce vomiting. If disturbing symptoms occur, seek medical attention.

4.2. Most important acute and delayed symptoms and effects of exposure

Effects and symptoms:
Effects and symptoms no data available

4.3. Indication of any immediate medical attention and special treatment for the injured person If disturbing symptoms occur, provide medical assistance.
Show the doctor this safety data sheet

SECTION 5: Firefighting measures 5.1. Extinguishing media

Suitable extinguishing media
Small fire: extinguishing powder. carbon dioxide (CO2)
Large fire: Foam, Water may be used in case of large fire.

Unsuitable extinguishing media:
water in a dense stream

5.2. Special hazards arising from the substance or mixture Fire produces dense, black smoke containing hazardous combustion products. Do not breathe smoke.

5.3. Advice for firefighters Wear self-

contained breathing apparatus and full protective clothing.

Collect contaminated extinguishing media separately. They must not be disposed of into the sewage system.

If possible, remove containers from exposure area.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Ensure adequate ventilation.

6.2. Environmental precautions

Prevent from spreading or entering sewage systems, watercourses, soil. In case of environmental contamination inform the appropriate services.

6.3. Methods and materials for containment and removal of contamination

Cover spills with absorbent material (e.g. sand, reactive binders based on hydrated calcium silicate). After about an hour, collect in a marked container, do not close (carbon dioxide is released). Keep moist and leave for several days in an open container (under supervision). Forward for removal/liquidation.

6.4. Reference to other sections

Information on appropriate personal protective equipment is given in Section 8.

Dispose of in accordance with the recommendations in section 13.

SECTION 7: Handling and storage of substances and mixtures

7.1. Precautions for safe handling

Avoid contact with the product. Avoid contamination of eyes, skin and clothing. Do not breathe vapour/mist/aerosol. Provide adequate general ventilation of the room and local exhaust ventilation. Remove contaminated clothing and protective equipment before entering eating areas. Empty containers may contain product residue and should be handled with care. Use personal protective equipment.

7.2. Conditions for safe storage, including any incompatibilities Store in a well-ventilated place. Keep away from food,

drink and animal feed.

7.3. Specific end use(s) See exposure scenarios.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL value

Hexamethylene diisocyanate	**DNEL value**	**for workers by inhalation, short-term exposure**			**systemic effect**	**0,07 mg/m³**
	DNEL value	**for workers by inhalation, short-term exposure**			**local action**	**0,07 mg/m³**
	DNEL value	**for workers by inhalation, long-term exposure**			**systemic effect**	**0,035 mg/m³**
	DNEL value	**for workers by inhalation, long-term exposure**			**local action**	**0,035 mg/m³**

PNEC values

Hexamethylene diisocyanate	**PNEC value**	**Sea water**	**0,00774 mg/**
	PNEC value	**Fresh water**	**l 0,0774 mg/**
	PNEC value	**Sediment (sea water)**	**l 1,334 µg/**
	PNEC value	**Sediment (freshwater)**	**kg 0,01334 mg/**
	PNEC value	**Periodic release**	**kg 0,774**
	PNEC value	**Sewage Treatment Plant (STP)**	**mg/l 8,42**
	PNEC value	**Soil**	**mg/l 0,0026 mg/kg**

Maximum allowable concentrations

Hexamethylene diisocyanate	**Substance marked with the notation "skin"**	**NDS**	**0,04 mg/m³**
		NDSCH	**0,08 mg/m³**

NDS commentary

in accordance with the Regulation of the Minister of Environmental Protection and Environmental Protection of 12 June 2018, Journal of Laws 2018, item 1286, as amended.

Labelling a substance with the notation "skin" means that absorption of the substance through the skin may be as important as exposure by inhalation.

Biologically acceptable values comment no
data available

Recommended monitoring
procedures Regulation of the Minister of Health of 2 February 2011 on tests and measurements of harmful health factors in the work environment (Journal of Laws 2011, No. 33, item 166)

8.2. Exposure control

Engineering controls General

ventilation in closed rooms.

Local exhaust ventilation.

Individual protection measures Respiratory protection Respirator with filter. Filter type A2-P2. in accordance with EN 405

Eye protection

Safety goggles complying with EN 166 Do not wear contact lenses.

Hand and skin protection

Protective gloves in accordance with EN 374 Glove material PVC Neoprene Natural rubber

Other protective equipment:
Protective clothing

References to regulations
The type of protective equipment must be selected appropriately to the concentration and amount of the hazardous substance in a specific work environment. Personal protective equipment should meet the requirements of the Regulation of the Minister of Economy of 21 December 2005 on the essential requirements for personal protective equipment (Journal of Laws No. 259, item 2173).

General advice:
Do not eat, drink or smoke while using the product. Wash hands before meals and immediately after using the product. Remove and wash contaminated clothing before reuse.

Environmental exposure controls
Avoid release to the environment.

SECTION 9: Physical and chemical properties 9.1. Information on basic physical and chemical properties

State of matter	liquid		
Appearance:	clear		
		Odor threshold:	
Smell:	characteristic	no data available	
Melting/freezing point:	no data available		
Boiling point or initial boiling point and boiling range:	> 200 °C		
Flammability of materials:	not applicable liquid		
Lower and upper explosive limits:	no data available		
Flash-point:	160 °C		
Autoignition temperature:	no data available		
Decomposition temperature:	no data available		
pH:	no data available		
Kinematic viscosity:	no data available		
Solubility:	Water.	15 °C	insoluble
Partition coefficient: n-octanol/water coefficient value):	no data available (log		
Vapor pressure:	No data available.		
Density or relative density:	Relative density.	1,1 g/cm³	
Relative vapor density:	no data available		
Particle characteristics:	no data available		

9.2. Other information

Information on physical hazard classes:	no data available
Other safety features:	no data available

SECTION 10: Stability and reactivity

10.1.Reactivity
Stable at normal ambient temperature and pressure.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
Reacts exothermically in contact with: Amines. Alcohols. Reacts with water to form CO2. Evolves flammable gases in contact with basic metals and strong reducing agents. Evolves toxic gases in contact with oxidizing inorganic acids and strong oxidizing agents.

10.4. Conditions to avoid
Exposure to sunlight. Sources of ignition.

10.5. Incompatible Materials
Amines. Alcohols. Metals. Strong reducing agents. Oxidizing mineral acids. Strong oxidizing agents.

10.6. Hazardous decomposition products At high
temperatures and during fire, toxic gases/vapours are released.

SECTION 11: Toxicological information

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

Acute oral toxicity

Aliphatic polyisocyanate	LD50	> 2.000 mg/kg	rat	Based on available data, the product has not been classified.
Hexamethylene diisocyanate	LD50	746 mg/kg	rat	

Acute dermal toxicity

Hexamethylene diisocyanate	LD50	> 599 mg/kg	24 h	rabbit	Based on the available data, the classification criteria were not met.

Acute inhalation toxicity

Aliphatic polyisocyanate	LC50	1,5 mg/l	4 h	rat	female
Hexamethylene diisocyanate	LC50	0,124 mg/l	4 h	rat	

Acute toxicity by other routes of administration

No data available

Skin corrosion/irritation

Aliphatic polyisocyanate	Skin irritation	positive	rabbit	OECD Guidelines 404
Hexamethylene diisocyanate	Skin irritation	positive	rabbit	OECD Guidelines 404

Serious eye damage/eye irritation

Aliphatic polyisocyanate	Eye irritation	positive	rabbit	OECD Guidelines 405
Hexamethylene diisocyanate	Eye irritation	positive	rabbit	OECD Guidelines 405

Respiratory sensitization

Hexamethylene diisocyanate	positive	guinea pig	OECD Guidelines 406

Skin sensitization

Aliphatic polyisocyanate	positive	guinea pig	OECD Guidelines 406
Hexamethylene diisocyanate	positive	guinea pig	OECD Guidelines 406

Mutagenic effect on reproductive cells

Summary

Based on the available data, the classification criteria were not met.

Carcinogenic effect

Summary

Based on the available data, the classification criteria were not met.

Reproductive toxicity

Summary

No data available

Target organ toxicity - single exposure

Aliphatic polyisocyanate	**by inhalation**	**inhalation positive**

Summary

May cause drowsiness or dizziness

Specific target organ toxicity – repeated exposure

Hexamethylene diisocyanate	**NOAH**	**0,035 mg/m³ 2 lata**		**rat**	**inhalation**	**guidelines OECD 453**	**couple positive**
	LOEL	**1 mg/m³**	**2 years**	**rat**	**inhalation**	**guidelines OECD 453**	**to**

Summary

Based on the available data, the classification criteria were not met.

Aspiration hazard

No data available

Information on likely routes of exposure Inhalation.

Skin contact.
Eye contact.

Symptoms related to physical, chemical and toxicological properties no data available

Delayed, immediate and chronic effects from short and long term exposure Inhalation. irritation of respiratory mucous membranes Skin contact. skin irritation Eye contact. eye irritation

11.2. Information about other threats

Other information
no data available

SECTION 12: Information

ecological 12.1.Toxicity

Aliphatic polyisocyanate	**Fish toxicity**	**LC50**	**28,3 mg/l**	**96 h**		**OECD Guidelines 203**
	Toxicity to daphnia and other aquatic invertebrates	**EC50**	**> 100 mg/l**	**48 h**		**OECD Guidelines 202**
	Algae toxicity	**EC50**	**> 100 mg/l**	**72 h**		**OECD guidelines 201**
	Activated sludge toxicity	**EC50**	**> 10.000 mg/l**			**OECD Guidelines 209**

Hexamethylene diisocyanate	**Acute toxicity to fish**	**LC50**	**22 mg/l**	**96 h**		**EU Method C.1**
	Acute toxicity to invertebrates water	**EC50**	**> 89,1 mg/l**	**48 h**	**Daphnia magna Method EU C.2**	
	Acute algae toxicity	**EC50**	**> 77,4 mg/l**	**72 h**		**EU Method C.3**
	Chronic toxicity to aquatic plants	**LOEC**	**12,6 mg/l**	**72 h**		**EU Method C.3**
	Chronic toxicity to aquatic plants	**NOEC**	**11,7 mg/l**	**72 h**		**EU Method C.3**
	Toxicity for EC50 bacteria		**842 mg/l**	**3 h**		

12.2. Persistence and degradability

Aliphatic polyisocyanate	Biodegradability				It is not easily biodegradable
Hexamethylene diisocyanate	Biodegradability of BOD		42 %	28 days	It is not easily biodegradable

12.3. Bioaccumulative potential

Hexamethylene diisocyanate	Bioconcentration factor	BCF	57,63	
	Bioaccumulation capacity LogKow		3,2	Does not bioaccumulate.

12.4. Mobility in soil

Hexamethylene diisocyanate	Mobility in soil	logKoc	3,77

12.5. Results of PBT and vPvB assessment

The product does not meet the PBT or vPvB criteria according to Annex XIII of Regulation (EC) No 1907/2006.

12.6. Endocrine disrupting properties

no data available 12.7. Other

adverse effects no data available

SECTION 13: Waste treatment

13.1. Waste disposal methods Comply with the
regulations listed below: Act of 14 December 2012
on waste (Journal of Laws of 2013, item 21), as amended.
Act of 13 June 2013 on the management of packaging and packaging waste (Journal of Laws of 2013, item 888).
Destroy in accordance with applicable waste disposal regulations.
Packaging waste should be recycled.
Packaging that cannot be cleaned should be disposed of like the product.
Regulation of the Minister of the Environment of 9 December 2014 on the waste catalogue (Journal of Laws 2014, item 1923).

SECTION 14: Transport Information

14.1. UN Number or ID Number

Type of transport	UN number
ADR	N/A
RID	N/A
IMDG	N/A
ICAO	N/A
DNA	N/A

14.2. UN proper shipping name

Type of transport	UN proper shipping name
ADR	not subject to transport regulations
RID	not subject to transport regulations
IMDG	not subject to transport regulations
ICAO	not subject to transport regulations
DNA	not subject to transport regulations

14.3. Transport hazard class(es)

Type of transport	Transport hazard class:	Classification code:	Threat identification number: not	Tunnel restriction code:	Warning label numbers:
ADR	not applicable	not applicable	applicable		not applicable
RID	not applicable	not applicable	not applicable		not applicable
IMDG	not applicable				not applicable
ICAO	not applicable				not applicable
DNA	not applicable				not applicable

14.4. Packing group

Type of transport	Packing group:
ADR	not applicable
RID	not applicable
IMDG	not applicable
ICAO	not applicable
DNA	not applicable

14.5. Environmental hazards
The product does not pose a hazard to the environment according to the criteria of the UN Model Regulations.

14.6. Special precautions for users no data available

14.7. Bulk sea transport in accordance with IMO instruments
not applicable

SECTION 15: Legal Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 on REACH with subsequent amendments Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with subsequent amendments Act of 17 January 2018 on chemical substances and their mixtures (Journal of Laws 2018, item 143)

15.2. Chemical Safety Assessment A
chemical safety assessment has not been performed.

SECTION 16: Other information

Changes compared to the previous version
General update

Explanation of abbreviations and acronyms used in the safety data sheet Ox. Gas - Oxidizing gas Press. Gas - Gas under pressure Flam. Liq. - Flammable liquid Flam. Sol. - Flammable solid Self-react. - Self-reactive substance or mixture Pyr. Liq. - Pyrophoric liquid Pyr. Sol. - Pyrophoric solid Self-heat. - Self-heating substance or mixture Water-react. - Substance or mixture which in contact with water emits flammable gas Ox. Liq. - Oxidizing liquid Ox. Sol. - Oxidizing solid Org. Perox. - Organic peroxide, type A Met. Corr. - Substance or mixture corrosive to metals Acute Tox. - Acute toxicity Skin Corr. - Skin corrosiveness Skin Irrit. - Skin irritation Resp. Sens. - Respiratory sensitization Skin Sens. - Skin sensitization Muta. - Germ cell mutagenicity, cat.1A Carc. - Carcinogenicity Repr. - Reproductive toxicity, cat.1A STOT SE - Specific target organ toxicity STOT RE - Specific target organ toxicity – repeated exposure, cat.1 Asp. Tox. - Aspiration hazard Aquatic Acute - Hazardous to the aquatic environment, acute hazard Aquatic Chronic - Hazardous to the aquatic environment, chronic hazard Ozone - Hazardous to the ozone layer Lact. - Effects on lactation or harmful effect on breastfed children OEL Highest allowable concentration OELCh Highest allowable momentary concentration NDSP Highest allowable ceiling concentration vPvB (Substance) very persistent and very bioaccumulative PBT (Substance) Persistent, bioaccumulative and toxic PNEC Predicted No Effect Concentration DNEL Derived No Effect Level LD50 - Lethal dose, at which 50% of the tested animals die LC50 - Lethal concentration, at which 50% of the tested animals die LOEC - Lowest Observed Effect Concentration NOEL - No Observed Effect Level NOEC - No Observed Effect Concentration ECX - Effective concentration, at which X% change is observed, e.g. reduction in growth or growth rate ADR European Agreement concerning the International Carriage of Dangerous Goods by Road ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterway by water RID Regulations concerning the International Carriage of Dangerous Goods by Rail Flam. Aerosol - Flammable aerosol product Flam. Gas - Flammable gas Expl. - Explosive UVCB - Substances of Unknown or Variable composition, Complex reaction products or Biological materials ICAO/IATA International Air Transport Association IMDG International Maritime Dangerous Goods Code

References to key literature and sources of data This
safety data sheet has been prepared on the basis of the safety data sheet provided by the manufacturer and/or online databases and applicable regulations.

Recommendations for any recommended employee training
Persons involved in the marketing of the product should be trained in the field of conduct, safety and hygiene.

List of phrases indicating the type of hazard and conditions of safe use

EUH204 Contains isocyanates. May produce an allergic reaction.

H302 Harmful if swallowed.

H315 Causes skin irritation

H317 May cause an allergic skin reaction.

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

H412 Harmful to aquatic life with long lasting effects.

not applicable

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P312 Call a POISON CENTER/doctor/… if you feel unwell.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

Changes in this update: alignment with Commission Regulation (EU) 2015/830 of 28 May 2015

Other information

Persons handling and using the product should be duly informed and given appropriate instructions on how to handle the product.

Responsibility for the safe use of the product rests with the user.

Polymer. The manufacturer/importer has confirmed the compliance of the substance/substances in the product with REACH (Regulation (EC) 1907/2006).

The information contained in the safety data sheet applies to the product in the form in which it is supplied.

This data cannot be considered under any circumstances as a description of the quality of the goods (product specification).

The data contained in the safety data sheet is based on our current knowledge and experience and describes the product in terms of safety requirements.