Revision: 09.06.2023



# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 09.06.2023

Version number 21 (replaces version 20)

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

- · 1.1 Product identifier
- · Trade name: Mipa 2K-HS-Härter HS 5
- · 1.2 Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

- · Application of the substance / the mixture Hardening agent/ Curing agent
- · 1.3 Details of the supplier of the safety data sheet
- Manufacturer/Supplier:

MIPA SE

Am Oberen Moos 1 D-84051 Essenbach Tel.: +49(0)8703-922-0 Fax.: +49(0)8703-922-100

e-mail: sdb-registratur@mipa-paints.com

www.mipa-paints.com

• 1.4 Emergency telephone number: International emergency number: +49(0)700 24112112 (MIP)

## **SECTION 2: Hazards identification**

- · 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008



flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



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-H336 May cause respiratory irritation. May cause drowsiness or

dizziness.

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 GB CLP regulation.

· Hazard pictograms





GHS02 GHS07

- · Signal word Danger
- · Hazard-determining components of labelling:

Hexamethylene diisocyanate, oligomers Ethyl acetate

n-Butyl acetate dibutyltin dilaurate

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#### · Hazard statements

H225 Highly flammable liquid and vapour.

H332 Harmful if inhaled.

H319 Causes serious eye irritation.H317 May cause an allergic skin reaction.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

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.

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

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

protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin

with water [or shower].

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

#### · Additional information:

EUH066 Repeated exposure may cause skin dryness or cracking. EUH204 Contains isocyanates. May produce an allergic reaction.

Restricted to professional users.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

· **PBT:** Not applicable. · **vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

#### · 3.2 Mixtures

· Description: Mixture of substances listed below with nonhazardous additions.

CAS: 28182-81-2	Hexamethylene diisocyanate, oligomers	50-100%
NLP: 500-060-2 Reg.nr.: 01-2119485796-17	<ul> <li>Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE</li> <li>H335, EUH204</li> </ul>	
CAS: 141-78-6 EINECS: 205-500-4 Reg.nr.: 01-2119475103-46	Ethyl acetate ♠ Flam. Liq. 2, H225; ♦ Eye Irrit. 2, H319; STOT SE 3, H336, EUH066	25-50%
CAS: 123-86-4 EINECS: 204-658-1 Reg.nr.: 01-2119485493-29	n-Butyl acetate  This is a second of the sec	5-<10%
CAS: 77-58-7 EINECS: 201-039-8 Reg.nr.: 01-2119496068-27	dibutyltin dilaurate  Muta. 2, H341; Repr. 1B, H360FD; STOT SE 1, H370; STOT RE 1, H372; Skin Corr. 1C, H314; Eye Dam. 1, H318; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1, H317	≥0.25-<0.3%

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CAS: 4083-64-1	4-isocyanatosulphonyltoluene	≥0.1-<1%
EINECS: 223-810-8 Reg.nr.: 01-2119980050-47	Resp. Sens. 1, H334;  Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335, EUH014, EUH204 Specific concentration limits:  Eye Irrit. 2; H319: C ≥ 5 %  STOT SE 3; H335: C ≥ 5 %	
	Skin Irrit. 2; H315: C ≥ 5 %	
CAS: 822-06-0 EINECS: 212-485-8 Reg.nr.: 01-2119457571-37	hexamethylene-di-isocyanate  Acute Tox. 2, H330; Resp. Sens. 1, H334; Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335, EUH204 Specific concentration limits: Resp. Sens. 1; H334: C ≥0.5 % Skin Sens. 1; H317: C ≥ 0.5 %	<0.1%

<sup>·</sup> 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:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· 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 rinse with water.
- · After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- · 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.

# **SECTION 5: Firefighting measures**

- · 5.1 Extinguishing media
- Suitable extinguishing agents:

CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- For safety reasons unsuitable extinguishing agents: Water with full jet
- · 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Nitrogen oxides (NOx)

Carbon monoxide (CO)

Hydrogen cyanide (HCN)

- 5.3 Advice for firefighters
- · Protective equipment: Mouth respiratory protective device.

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# SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

· 6.2 Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

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 section 13.

Ensure adequate ventilation.

Contain and collect spillages with non-combustible absorbent materials (e.g. sand, earth, diatomaceous earth) and place in a suitable container.

Decontaminate immediately with suitable mixture (flammable):

- as such usable (inflammatory!):

water 45 Vol.% ethanol or isopropanol 50 Vol.% ammonia solution (Density= 0.88) 5 Vol.%

- alternatively (non-flammable):

sodium carbonate 5 Vol.% water 95 Vol.%

Add the same decontaminant to any residues and allow to stand for several days in an non-sealed container until no further reaction occurs. Once this stage is reached, close the container and dispose of in accordance with the waste regulations (see Section 13).

#### 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

Keep away from heat and direct sunlight.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Persons with a history of asthma, allergies or chronic or recurrent respiratory diseases should only be employed in processes in which this product is used under appropriate medical supervision.

## Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

## · 7.2 Conditions for safe storage, including any incompatibilities

- Storage:
- · Requirements to be met by storerooms and receptacles: Store in a cool location.
- · Information about storage in one common storage facility:

Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.

Store away from foodstuffs.

#### Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Store separately from oxidising agents, strongly alkaline and strongly acidic materials, amines, alcohol and water.

· Storage class: 3

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· 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	t require m	onitoring at	the workplace:
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#### 28182-81-2 Hexamethylene diisocyanate, oligomers

EBW Short-term value: 0.5 mg/m3

exposition evaluation valu TRGS 430 (EBW)

## 141-78-6 Ethyl acetate

WEL | Short-term value: 1468 mg/m³, 400 ppm

Long-term value: 734 mg/m³, 200 ppm

#### 123-86-4 n-Butyl acetate

WEL | Short-term value: 966 mg/m³, 200 ppm

Long-term value: 724 mg/m³, 150 ppm

#### 77-58-7 dibutyltin dilaurate

WEL Short-term value: 0.2 mg/m3

Long-term value: 0.1 mg/m3

as Sn; Sk

#### 4083-64-1 4-isocyanatosulphonyltoluene

WEL | Short-term value: 0.07 mg/m<sup>3</sup>

Long-term value: 0.02 mg/m3

Sen; as -NCO

## 822-06-0 hexamethylene-di-isocyanate

WEL | Short-term value: 0.07 mg/m³

Long-term value: 0.02 mg/m<sup>3</sup>

Sen; as -NCO

#### · Ingredients with biological limit values:

#### 822-06-0 hexamethylene-di-isocyanate

BMGV 1 µmol creatinine/mol

Medium: urine

Sampling time: At the end of the period od exposure

Parameter: isocyanate-derived diamine

- Additional information: The lists valid during the making were used as basis.
- · 8.2 Exposure controls
- · Appropriate engineering controls No further data; see section 7.
- Individual protection measures, such as personal protective equipment

All personal protective equipment, including respiratory protective equipment, used to control exposure to hazardous substances must be selected to meet the requirements of the COSHH Regulations.

#### · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

#### Respiratory protection:



In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

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#### · Hand protection

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation



Protective gloves (EN 374)

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

#### Material of gloves

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.

#### Breakthrough time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye/face protection



Tightly sealed goggles

# SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Physical state Fluid

· Colour: According to product specification

· Odour: Characteristic · Odour threshold: Not determined. Melting point/freezing point: Undetermined.

· Boiling point or initial boiling point and

boiling range 77-78 °C (141-78-6 Ethyl acetate)

· Flammability Highly flammable.

· Lower and upper explosion limit

· Lower: 2.1 Vol % · Upper: 11.5 Vol %

-4 °C (DIN 53213) · Flash point: Auto-ignition temperature: 370 °C (DIN 51794)

Decomposition temperature: Not determined. · pH Not determined.

· Viscosity:

· Solubility

10-15 s (DIN 53211/4) · Kinematic viscosity at 20 °C

Not determined. · Dvnamic:

· water:

Not miscible or difficult to mix.

Partition coefficient n-octanol/water (log

value) Not determined.

· Vapour pressure at 20 °C: 97 hPa · Vapour pressure at 50 °C: 360 hPa

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· Density and/or relative density

· Density at 20 °C: 1.026 g/cm3 (DIN 53217)

· Relative density Not determined. · Vapour density Not determined.

· 9.2 Other information

· Appearance:

· Form: Fluid

· Important information on protection of health

and environment, and on safety.

· Ignition temperature: Product is not selfigniting.

Explosive properties: Product is not explosive. However, formation of

explosive air/vapour mixtures are possible.

· Solvent content:

· VOC (EC) 45.47 % · Solids content (weight-%): 54.5 %

Change in condition

· Evaporation rate Not determined.

· Information with regard to physical hazard

classes

· Explosives Void Flammable gases Void · Aerosols Void · Oxidising gases Void · Gases under pressure Void

Flammable liquids Highly flammable liquid and vapour.

Flammable solids Void · Self-reactive substances and mixtures Void · Pyrophoric liquids Void Void · Pyrophoric solids · Self-heating substances and mixtures Void

Substances and mixtures, which emit

flammable gases in contact with water Void · Oxidising liquids Void · Oxidising solids Void · Organic peroxides Void · Corrosive to metals Void · Desensitised explosives Void

# 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.
- · 10.5 Incompatible materials: No further relevant information available.
- 10.6 Hazardous decomposition products:

Possible in traces.

Nitrogen oxides

Hydrogen chloride (HCI)

Hydrogen cyanide (prussic acid)

Carbon monoxide

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Nitrogen oxides (NOx)

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# **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:

28182-81-2 Hexamethylene diisocyanate, oligomers

Inhalative LC50/4 h 1.5 mg/l (rat)

- · Serious eye damage/irritation Causes serious eye irritation.
- · Respiratory or skin sensitisation May cause an allergic skin reaction.
- STOT-single exposure May cause respiratory irritation. May cause drowsiness or dizziness.
- · 11.2 Information on other hazards
- Endocrine disrupting properties

None of the ingredients is listed.

## SECTION 12: Ecological information

- · 12.1 Toxicity
- · Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability No further relevant information available.
- · 12.3 Bioaccumulative potential No further relevant information available.
- 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
- · Remark: Harmful to fish
- Additional ecological information:
- · General notes:

Water hazard class 2 (German Regulation): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Harmful to aquatic organisms

## 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:
- · Recommendation: Disposal must be made according to official regulations.

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14.1 UN number or ID number ADR, IMDG, IATA	UN1263
14.2 UN proper shipping name ADR IMDG, IATA	UN1263 PAINT RELATED MATERIAL PAINT RELATED MATERIAL
14.3 Transport hazard class(es)	
ADR	
Class Label	3 (F1) Flammable liquids. 3
IMDG, IATA	
Class	2 Flammable liquida
Class Label	3 Flammable liquids. 3
14.4 Packing group ADR, IMDG, IATA	II .
14.5 Environmental hazards: Marine pollutant:	No
14.6 Special precautions for user	Warning: Flammable liquids.
Hazard identification number (Kemler code): EMS Number:	
EMS Number: Stowage Category	<i>F-E,<u>S-E</u></i> B
14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
Transport/Additional information:	
ADR Limited quantities (LQ) Transport category Tunnel restriction code	5L 2 D/E
IMDG Limited quantities (LQ)	5L
UN "Model Regulation":	UN 1263 PAINT RELATED MATERIAL, 3, II

# SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I None of the ingredients is listed.
- · Seveso category P5c FLAMMABLE LIQUIDS

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- · Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t
- · Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t
- · National regulations:
- · Additional classification according to Decree on Hazardous Materials, Annex II:

Class Share in S			
1	<1		
NK	25-50		

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not 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.

#### · Relevant phrases

H225	Hiahlv	flammable	liauid	and	vapour.

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

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.

H336 May cause drowsiness or dizziness.

H341 Suspected of causing genetic defects.

H360FD May damage fertility. May damage the unborn child.

H370 Causes damage to organs.

H372 Causes damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

EUH014 Reacts violently with water.

EUH066 Repeated exposure may cause skin dryness or cracking.

EUH204 Contains isocyanates. May produce an allergic reaction.

## · Classification according to Regulation (EC) No 1272/2008

The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

#### · 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 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

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids - Category 3

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Acute Tox. 2: Acute toxicity - Category 2

Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1C: Skin corrosion/irritation – Category 1C
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 Muta. 2: Germ cell mutagenicity – Category 2

Repr. 1B: Reproductive toxicity - Category 1B

STOT SE 1: Specific target organ toxicity (single exposure) – Category 1 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 1: Specific target organ toxicity (repeated exposure) - Category 1 Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard - Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard - Category 1 Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

\* \* Data compared to the previous version altered.