

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 23.01.2023

Version number 16 (replaces version 15)

Revision: 23.01.2023

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

- **1.1 Product identifier**
- **Trade name:** *Mipa 2K-MS-Härter MS 40*
- **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](mailto:sdb-registratur@mipa-paints.com)  
[www.mipa-paints.com](http://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. 3 H226 Flammable liquid and vapour.



Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

- **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** *Warning*
- **Hazard-determining components of labelling:**  
*Hexamethylene diisocyanate, oligomers*  
*2-Methoxy-1-methylethyl acetate*  
*n-Butyl acetate*
- **Hazard statements**  
*H226 Flammable liquid and vapour.*  
*H317 May cause an allergic skin reaction.*  
*H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.*
- **Precautionary statements**  
*P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.*

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- 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.
- P312 Call a POISON CENTER/doctor if you feel unwell.
- **Additional information:**  
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.

· **Dangerous components:**

CAS: 28182-81-2 NLP: 500-060-2 Reg.nr.: 01-2119485796-17	Hexamethylene diisocyanate, oligomers ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335, EUH204	25-50%
CAS: 108-65-6 EINECS: 203-603-9 Reg.nr.: 01-2119475791-29	2-Methoxy-1-methylethyl acetate ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	25-50%
CAS: 123-86-4 EINECS: 204-658-1 Reg.nr.: 01-2119485493-29	n-Butyl acetate ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336, EUH066	≤20%
CAS: 112-07-2 EINECS: 203-933-3 Reg.nr.: 01-2119475112-47	2-Butoxyethyl acetate ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332	<15%

- **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.  
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.
- **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:**  
CO<sub>2</sub>, 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 (NO<sub>x</sub>)  
Carbon monoxide (CO)  
Hydrogen cyanide (HCN)
- **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**  
Wear protective equipment. Keep unprotected persons away.
- **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.  
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 a 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**  
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:** No special requirements.

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- **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 separately from oxidising agents, strongly alkaline and strongly acidic materials, amines, alcohol and water.
- **Storage class: 3**
- **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:**

##### 28182-81-2 Hexamethylene diisocyanate, oligomers

EBW Short-term value: 0.5 mg/m<sup>3</sup>  
exposition evaluation valu TRGS 430 (EBW)

##### 108-65-6 2-Methoxy-1-methylethyl acetate

WEL Short-term value: 548 mg/m<sup>3</sup>, 100 ppm  
Long-term value: 274 mg/m<sup>3</sup>, 50 ppm  
Sk

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

WEL Short-term value: 966 mg/m<sup>3</sup>, 200 ppm  
Long-term value: 724 mg/m<sup>3</sup>, 150 ppm

##### 112-07-2 2-Butoxyethyl acetate

WEL Short-term value: 332 mg/m<sup>3</sup>, 50 ppm  
Long-term value: 133 mg/m<sup>3</sup>, 20 ppm  
Sk

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

#### 8.2 Exposure controls

· **Appropriate engineering controls** No further data; see item 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:**

Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.

· **Respiratory protection:**

Filter A/P2 (EN 141, EN 143)



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.

· **Hand protection**



Protective gloves (EN 374)

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

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· **Material of gloves**

Butyl rubber, BR

Recommended thickness of the material:  $\geq 0.7$  mm

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.

· **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**

124-128 °C (123-86-4 n-Butyl acetate)

· **Flammability**

Flammable.

· **Lower and upper explosion limit**

· **Lower:**

1.2 Vol %

· **Upper:**

10.8 Vol %

· **Flash point:**

27 °C (DIN 53213)

· **Ignition temperature:**

280 °C (DIN 51794)

· **Decomposition temperature:**

Not determined.

· **pH**

Not determined.

· **Viscosity:**

· **Kinematic viscosity at 20 °C**

10-15 s (DIN 53211/4)

· **Dynamic:**

Not determined.

· **Solubility**

· **water:**

Not miscible or difficult to mix.

· **Partition coefficient n-octanol/water (log value)**

Not determined.

· **Vapour pressure at 20 °C:**

10.7 hPa

· **Density and/or relative density**

· **Density at 20 °C:**

1.006 g/cm<sup>3</sup> (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.**

· **Auto-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)**

64.00 %

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· <b>Solids content (weight-%):</b>	36.0 %
· <b>Change in condition</b>	
· <b>Evaporation rate</b>	Not determined.
· <b>Information with regard to physical hazard classes</b>	
· <b>Explosives</b>	Void
· <b>Flammable gases</b>	Void
· <b>Aerosols</b>	Void
· <b>Oxidising gases</b>	Void
· <b>Gases under pressure</b>	Void
· <b>Flammable liquids</b>	Flammable liquid and vapour.
· <b>Flammable solids</b>	Void
· <b>Self-reactive substances and mixtures</b>	Void
· <b>Pyrophoric liquids</b>	Void
· <b>Pyrophoric solids</b>	Void
· <b>Self-heating substances and mixtures</b>	Void
· <b>Substances and mixtures, which emit flammable gases in contact with water</b>	Void
· <b>Oxidising liquids</b>	Void
· <b>Oxidising solids</b>	Void
· <b>Organic peroxides</b>	Void
· <b>Corrosive to metals</b>	Void
· <b>Desensitised explosives</b>	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 (HCl)  
Hydrogen cyanide (prussic acid)  
Carbon monoxide  
Nitrogen oxides (NOx)

**SECTION 11: Toxicological information**

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.
- **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.

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## 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**
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) : 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**  
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

- |   |                               |
|---|-------------------------------|
| · <b>14.1 UN number or ID number</b>  |                               |
| · <b>ADR, IMDG, IATA</b>  | UN1263                        |
| · <b>14.2 UN proper shipping name</b>   |                               |
| · <b>ADR</b>  | UN1263 PAINT RELATED MATERIAL |
| · <b>IMDG, IATA</b>   | PAINT RELATED MATERIAL        |
| · <b>14.3 Transport hazard class(es)</b>  |                               |
| · <b>ADR</b>  |                               |
|  |                               |
| · <b>Class</b>  | 3 (F1) Flammable liquids.     |
| · <b>Label</b>  | 3                             |
| · <b>IMDG, IATA</b>   |                               |
|  |                               |
| · <b>Class</b>  | 3 Flammable liquids.          |

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· <b>Label</b>	3
· <b>14.4 Packing group</b> · <b>ADR, IMDG, IATA</b>	III
· <b>14.5 Environmental hazards:</b> · <b>Marine pollutant:</b>	No
· <b>14.6 Special precautions for user</b> · <b>Hazard identification number (Kemler code):</b> · <b>EMS Number:</b> · <b>Stowage Category</b>	Warning: Flammable liquids. 30 F-E, S-E A
· <b>14.7 Maritime transport in bulk according to IMO instruments</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b> · <b>Limited quantities (LQ)</b> · <b>Transport category</b> · <b>Tunnel restriction code</b>	5L 3 D/E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b>	5L
· <b>UN "Model Regulation":</b>	UN 1263 PAINT RELATED MATERIAL, 3, III

**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
- **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 %
NK	50-100

- **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**
- H226 Flammable liquid and vapour.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H317 May cause an allergic skin reaction.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- EUH066 Repeated exposure may cause skin dryness or cracking.

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*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)*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Flam. Liq. 3: Flammable liquids – Category 3*

*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*

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

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