Mipa Protector tönbar Set

Components:

Mipa Protector tönbar
Mipa 2K-Härter H 10 kurz

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

1 Identification

· **Product identifier**

· **Trade name: Mipa Protector tönbar**
· **Application of the substance / the mixture** Paint

· **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

Mipa USA Inc.
13 American Way Suite 15
USA - NJ 08884 Spotswood
Tel.: +1 7324169590
e.mail: info@mipa-usa.com

· **Emergency telephone number:**
International: 011 49(0)700 24112112 (MIP)
US: +1 872 5888271 (MIP)
US Emergency Telephone Number (for transportation incidents only): 1-800-535-5053 (Infotrac)

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2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS02 Flame

Flammable Liquids 2 H225 Highly flammable liquid and vapor.

GHS07

Sensitization - Skin 1 H317 May cause an allergic skin reaction.
Specific Target Organ Toxicity - Single Exposure 3 H336 May cause drowsiness or dizziness.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS02 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**
n-Butyl acetate
2-Methoxy-1-methylethyl acetate
Acetone
Methyl methacrylate
· **Hazard statements**
H225 Highly flammable liquid and vapor.
H317 May cause an allergic skin reaction.
H336 May cause drowsiness or dizziness.
· **Precautionary statements**
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa Protector tönbar

(Contd. of page 1)

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.

· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 0
Fire = 3
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 0
Fire = 3
Reactivity = 0

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

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3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**		
123-86-4	n-Butyl acetate	≤20%
108-65-6	2-Methoxy-1-methylethyl acetate	10-25%
67-64-1	Acetone	5-<10%
80-62-6	Methyl methacrylate	≥0.1-<1%
97-63-2	Ethyl methacrylate	≥0.1-<1%
868-77-9	2-Hydroxyethyl methacrylate	≥0.1-<1%

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4 First-aid measures

· **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 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.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa Protector tönbar

(Contd. of page 2)

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** No special measures required.

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6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **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.
· **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.
· **Protective Action Criteria for Chemicals**

· **PAC-1:**		
123-86-4	n-Butyl acetate	5 ppm
108-65-6	2-Methoxy-1-methylethyl acetate	50 ppm
67-64-1	Acetone	200 ppm
80-62-6	Methyl methacrylate	17 ppm
97-63-2	Ethyl methacrylate	5.5 ppm
868-77-9	2-Hydroxyethyl methacrylate	1.9 mg/m³

· **PAC-2:**		
123-86-4	n-Butyl acetate	200 ppm
108-65-6	2-Methoxy-1-methylethyl acetate	1,000 ppm
67-64-1	Acetone	3200* ppm
80-62-6	Methyl methacrylate	120 ppm
97-63-2	Ethyl methacrylate	61 ppm
868-77-9	2-Hydroxyethyl methacrylate	21 mg/m³

· **PAC-3:**		
123-86-4	n-Butyl acetate	3000* ppm
108-65-6	2-Methoxy-1-methylethyl acetate	5000* ppm
67-64-1	Acetone	5700* ppm
80-62-6	Methyl methacrylate	570 ppm
97-63-2	Ethyl methacrylate	370 ppm
868-77-9	2-Hydroxyethyl methacrylate	1,000 mg/m³

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa Protector tönbar

(Contd. of page 3)

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Keep away from heat and direct sunlight.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

· **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:** Store away from foodstuffs.
· **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
· **Storage class:** 3
· **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

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

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

123-86-4 n-Butyl acetate	
PEL	Long-term value: 710 mg/m³, 150 ppm
REL	Short-term value: 950 mg/m³, 200 ppm Long-term value: 710 mg/m³, 150 ppm
TLV	Short-term value: 712 mg/m³, 150 ppm Long-term value: 238 mg/m³, 50 ppm
108-65-6 2-Methoxy-1-methylethyl acetate	
WEEL	Long-term value: 50 ppm
67-64-1 Acetone	
PEL	Long-term value: 2400 mg/m³, 1000 ppm
REL	Long-term value: 590 mg/m³, 250 ppm
TLV	Short-term value: 1187 mg/m³, 500 ppm Long-term value: 594 mg/m³, 250 ppm A4, BEI
80-62-6 Methyl methacrylate	
PEL	Long-term value: 410 mg/m³, 100 ppm
REL	Long-term value: 410 mg/m³, 100 ppm
TLV	Short-term value: 410 mg/m³, 100 ppm Long-term value: 205 mg/m³, 50 ppm DSEN, A4

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa Protector tönbar

(Contd. of page 4)

· **Ingredients with biological limit values:**

67-64-1 Acetone

BEI	25 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)

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

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Protective gloves

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 protection:**

Tightly sealed goggles

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

Form:	Fluid
Color:	According to product specification
· **Odor:**	Characteristic
· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa Protector tönbar

(Contd. of page 5)

· **Change in condition**	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	56 °C (132.8 °F)
· **Flash point:**	-17 °C (1.4 °F) (DIN EN ISO 1523:2002)
· **Flammability:**	Highly flammable.
· **Auto igniting:**	315 °C (599 °F) (DIN 51794)
· **Decomposition temperature:**	Not determined.
· **Ignition temperature:**	Product is not selfigniting.
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· **Explosion limits:**	
Lower:	1.2 Vol %
Upper:	10.8 Vol %
· **Vapor pressure at 20 °C (68 °F):**	233 hPa (174.8 mm Hg)
· **Vapor pressure at 50 °C (122 °F):**	800 hPa (600 mm Hg)
· **Density at 20 °C (68 °F):**	1.203 g/cm³ (10.039 lbs/gal) (DIN EN ISO 2811-1)
· **Relative density**	Not determined.
· **Vapor density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
Water:	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic at 20 °C (68 °F):	>60 s (ISO 6 mm)
· **Solvent content:**	
VOC content:	28.55 % 382 g/l / 3.2 lb/gal
Solids content (weight-%):	64.6 %
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** Carbon monoxide

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa Protector tönbar

(Contd. of page 6)

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11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
123-86-4 n-Butyl acetate		
Oral	LD50	13,100 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)
108-65-6 2-Methoxy-1-methylethyl acetate		
Oral	LD50	8,532 mg/kg (rat)
67-64-1 Acetone		
Oral	LD50	5,800 mg/kg (rat)
Dermal	LD50	20,000 mg/kg (rabbit)
80-62-6 Methyl methacrylate		
Oral	LD50	7,872 mg/kg (rat)
97-63-2 Ethyl methacrylate		
Oral	LD50	14,800 mg/kg (rat)
868-77-9 2-Hydroxyethyl methacrylate		
Oral	LD50	5,050 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** No irritating effect.
· **Sensitization:** Sensitization possible through skin contact.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
14807-96-6	Talc	2A
7631-86-9	Silicon dioxide, chemically prepared	3
1309-37-1	Diiron trioxide	3
9002-88-4	Polyethylene low density	3
9003-07-0	1-Propene, homopolymer	3
80-62-6	Methyl methacrylate	3
1333-86-4	Carbon black	2B

· **NTP (National Toxicology Program)**		
14808-60-7	Quartz (SiO2)	K

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa Protector tönbar

(Contd. of page 7)

· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Water hazard class 1 (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.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**
· **Recommendation:**
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN1263
· **UN proper shipping name**	
· **DOT**	Paint
· **ADR**	UN1263 PAINT
· **IMDG, IATA**	PAINT
· **Transport hazard class(es)**	
· **DOT**	

· **Class**	3 Flammable liquids
· **Label**	3
· **ADR**	

· **Class**	3 (F1) Flammable liquids
· **Label**	3

(Contd. on page 9)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa Protector tönbar

(Contd. of page 8)

· **IMDG, IATA**

· **Class**	3 Flammable liquids
· **Label**	3
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	II
· **Environmental hazards:**	Not applicable.
· **Special precautions for user**	Warning: Flammable liquids
· **Hazard identification number (Kemler code):**	33
· **EMS Number:**	F-E,S-E
· **Stowage Category**	B
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	5L
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **UN "Model Regulation":**	UN 1263 PAINT, 3, II

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15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**

80-62-6	Methyl methacrylate

· **Hazardous Air Pollutants**

80-62-6	Methyl methacrylate

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

(Contd. on page 10)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa Protector tönbar

(Contd. of page 9)

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**		
67-64-1	Acetone	I
80-62-6	Methyl methacrylate	E, NL

· **TLV (Threshold Limit Value)**			
67-64-1	Acetone	A4	5-<10%
80-62-6	Methyl methacrylate	A4	≥0.1-<1%

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**	
1333-86-4	Carbon black
14808-60-7	Quartz (SiO2)

· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS02 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**
n-Butyl acetate
2-Methoxy-1-methylethyl acetate
Acetone
Methyl methacrylate
· **Hazard statements**
H225 Highly flammable liquid and vapor.
H317 May cause an allergic skin reaction.
H336 May cause drowsiness or dizziness.
· **Precautionary statements**

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.

· **National regulations:**
· **Additional classification according to Decree on Hazardous Materials:**

Class	Share in %
NK	25-50

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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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:**
· **Date of preparation / last revision** 08/18/2025 / 13
· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

(Contd. on page 11)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 *Reviewed on 08/08/2025*

Trade name: Mipa Protector tönbar

(Contd. of page 10)

IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
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
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Flammable Liquids 2: Flammable liquids – Category 2
Sensitization - Skin 1: Skin sensitisation – Category 1
Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3
· **** Data compared to the previous version altered.***

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

*
1 Identification

· **Product identifier**

· **Trade name: Mipa 2K-Härter H 10 kurz**
· **Application of the substance / the mixture** Hardening agent/ Curing agent

· **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

Mipa USA Inc.
13 American Way Suite 15
USA - NJ 08884 Spotswood
Tel.: +1 7324169590
e.mail: info@mipa-usa.com

· **Emergency telephone number:**
International: 011 49(0)700 24112112 (MIP)
US: +1 872 5888271 (MIP)
US Emergency Telephone Number (for transportation incidents only): 1-800-535-5053 (Infotrac)

*
2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS02 Flame

Flammable Liquids 3	H226	Flammable liquid and vapor.

GHS07

Sensitization - Skin 1	H317	May cause an allergic skin reaction.
Specific Target Organ Toxicity - Single Exposure 3	H335-H336	May cause respiratory irritation. May cause drowsiness or dizziness.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS02 GHS07

· **Signal word** Warning

· **Hazard-determining components of labeling:**
Hexamethylene diisocyanate, oligomers
n-Butyl acetate
2-Methoxy-1-methylethyl acetate
· **Hazard statements**
H226 Flammable liquid and vapor.
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/sparks/open flames/hot surfaces. - No smoking.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa 2K-Härter H 10 kurz

(Contd. of page 1)

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.

· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 0
Fire = 3
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 0
Fire = 3
Reactivity = 0

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

*
3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**		
123-86-4	n-Butyl acetate	50-100%
28182-81-2	Hexamethylene diisocyanate, oligomers	25-50%
108-65-6	2-Methoxy-1-methylethyl acetate	2.5-<10%
112-07-2	2-Butoxyethyl acetate	2.5-<5%

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4 First-aid measures

· **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 rinse with water.
· **After eye contact:** Rinse opened eye for several minutes under running water.
· **After swallowing:** If symptoms persist consult doctor.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa 2K-Härter H 10 kurz

(Contd. of page 2)

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5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
· **Advice for firefighters**
· **Protective equipment:** No special measures required.
· **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:**
Keep contaminated washing water and dispose of appropriately.
Do not allow to enter sewers/ surface or ground water.
· **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.
· **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.
· **Protective Action Criteria for Chemicals**

· **PAC-1:**		
123-86-4	n-Butyl acetate	5 ppm
28182-81-2	Hexamethylene diisocyanate, oligomers	7.8 mg/m³
108-65-6	2-Methoxy-1-methylethyl acetate	50 ppm
112-07-2	2-Butoxyethyl acetate	15 ppm

· **PAC-2:**		
123-86-4	n-Butyl acetate	200 ppm
28182-81-2	Hexamethylene diisocyanate, oligomers	2.9 mg/m3
108-65-6	2-Methoxy-1-methylethyl acetate	1,000 ppm
112-07-2	2-Butoxyethyl acetate	35 ppm

· **PAC-3:**		
123-86-4	n-Butyl acetate	3000* ppm
28182-81-2	Hexamethylene diisocyanate, oligomers	17 mg/m3
108-65-6	2-Methoxy-1-methylethyl acetate	5000* ppm
112-07-2	2-Butoxyethyl acetate	210 ppm

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa 2K-Härter H 10 kurz

(Contd. of page 3)

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7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Use only in well ventilated areas.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
· **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

· **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.
· **Further information about storage conditions:** Keep receptacle tightly sealed.
· **Storage class:** 3
· **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

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

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

123-86-4 n-Butyl acetate	
PEL	Long-term value: 710 mg/m³, 150 ppm
REL	Short-term value: 950 mg/m³, 200 ppm Long-term value: 710 mg/m³, 150 ppm
TLV	Short-term value: 712 mg/m³, 150 ppm Long-term value: 238 mg/m³, 50 ppm
108-65-6 2-Methoxy-1-methylethyl acetate	
WEEL	Long-term value: 50 ppm
112-07-2 2-Butoxyethyl acetate	
REL	Long-term value: 33 mg/m³, 5 ppm
TLV	Long-term value: 131 mg/m³, 20 ppm A3

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

· **Exposure controls**
· **Personal protective equipment:**

.
· **General protective and hygienic measures:**
Apply solvent resistant skin cream before beginning work.
Do not eat, drink, smoke or sniff while working.
Immediately remove all soiled and contaminated clothing.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa 2K-Härter H 10 kurz

(Contd. of page 4)

Wash hands before breaks and at the end of work.

· **Breathing equipment:**
Filter A/P2

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Protective gloves

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

· **Material of gloves**
Butyl rubber, BR
Recommended thickness of the material: ≥ 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.

· **Breakthrough time of glove material** Value for the permeation: Level ≤ 2

· **Eye protection:**

Tightly sealed goggles

· **Body protection:** Protective work clothing

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Color:	According to product specification
· **Odor:**	Characteristic
· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	124-128 °C (255.2-262.4 °F)
· **Flash point:**	27 °C (80.6 °F) (DIN 53213)
· **Flammability:**	Flammable.
· **Auto igniting:**	315 °C (599 °F) (DIN 51794)
· **Decomposition temperature:**	Not determined.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa 2K-Härter H 10 kurz

(Contd. of page 5)

· **Ignition temperature:**	Product is not selfigniting.
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· **Explosion limits:**	
Lower:	1.2 Vol %
Upper:	8.5 Vol %
· **Vapor pressure at 20 °C (68 °F):**	10.7 hPa (8 mm Hg)
· **Vapor pressure at 50 °C (122 °F):**	55 hPa (41.3 mm Hg)
· **Density at 20 °C (68 °F):**	0.974 g/cm³ (8.128 lbs/gal) (DIN 53217)
· **Relative density**	Not determined.
· **Vapor density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
Water:	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic at 20 °C (68 °F):	10-15 s (DIN 53211/4)
· **Solvent content:**	
VOC content:	63.92 % 623 g/l / 5.2 lb/gal
Solids content (weight-%):	36.1 %
· **Other information**	No further relevant information available.

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10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **Possibility of hazardous reactions** Reacts with alcohols, amines, aqueous acids and alkalis.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Carbon monoxide

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11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
123-86-4 n-Butyl acetate		
Oral	LD50	13,100 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit)

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa 2K-Härter H 10 kurz

(Contd. of page 6)

108-65-6 2-Methoxy-1-methylethyl acetate		
Oral	LD50	8,532 mg/kg (rat)
112-07-2 2-Butoxyethyl acetate		
Oral	LD50	1,880 mg/kg (rat)
Dermal	LD50	1,480 mg/kg (rabbit)

· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** No irritating effect.
· **Sensitization:** Sensitization possible through skin contact.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**
None of the ingredients is listed.

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

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12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Water hazard class 1 (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.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must be specially treated adhering to official regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa 2K-Härter H 10 kurz

(Contd. of page 7)

· **Recommended cleansing agent:** Diluted caustic solution

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14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN1263
· **UN proper shipping name**	
· **DOT**	Paint related material
· **ADR**	UN1263 PAINT RELATED MATERIAL
· **IMDG, IATA**	PAINT RELATED MATERIAL
· **Transport hazard class(es)**	
· **DOT**	
	
· **Class**	3 Flammable liquids
· **Label**	3
· **ADR**	
	
· **Class**	3 (F1) Flammable liquids
· **Label**	3
· **IMDG, IATA**	
	
· **Class**	3 Flammable liquids
· **Label**	3
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	III
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Flammable liquids
· **Hazard identification number (Kemler code):**	30
· **EMS Number:**	F-E,S-E
· **Stowage Category**	A
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	5L
· **IMDG**	
· **Limited quantities (LQ)**	5L

(Contd. on page 9)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa 2K-Härter H 10 kurz

(Contd. of page 8)

· **UN "Model Regulation":** UN 1263 PAINT RELATED MATERIAL, 3, III

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15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**
None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**

112-07-2	2-Butoxyethyl acetate

· **Hazardous Air Pollutants**
None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

112-07-2	2-Butoxyethyl acetate	A3	2.5-<5%

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS02 GHS07

· **Signal word** Warning

· **Hazard-determining components of labeling:**
Hexamethylene diisocyanate, oligomers
n-Butyl acetate
2-Methoxy-1-methylethyl acetate
· **Hazard statements**
H226 Flammable liquid and vapor.
H317 May cause an allergic skin reaction.
H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

(Contd. on page 10)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/18/2025 Reviewed on 08/08/2025

Trade name: Mipa 2K-Härter H 10 kurz

(Contd. of page 9)

· **Precautionary statements**

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.

· **National regulations:**

· **Additional classification according to Decree on Hazardous Materials:**

Class	Share in %
I	<1
NK	50-100

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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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:**

· **Date of preparation / last revision** 08/18/2025 / 65

· **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
DOT: US Department of Transportation
IATA: International Air Transport Association
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
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
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flammable Liquids 3: Flammable liquids – Category 3
Sensitization - Skin 1: Skin sensitisation – Category 1
Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

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