

1 Identification of substance

· **Product details**

- **Trade name:** 2K-Härter MS 40 / 2K-Hardener MS 40
- **Application of the substance / the preparation** Hardening agent/ Curing agent

· **Manufacturer/Supplier:**

MIPA AG
Am Oberen Moos 1
D-84051 Essenbach
Tel.: 0049(0) 8703-922-0
Fax.: 0049(0) 8703-922-100
e-mail: sdb-registratur@mipa-paints.com
www.mipa-paints.com

· **Information department:** Laboratory

· **Emergency information:**

011 49(0)5262-9939657 (MIP)
US Emergency Telephone Number (for transportation incidents only): 1-800-535-5053 (Infotrac)

2 Composition/Data on components

· **Chemical characterization**

- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

28182-81-2	Aliphatic polyisocyanate homopolymer (classification according to definition principle)	25-50%
108-65-6	2-methoxy-1-methylethyl acetate	10-25%
123-86-4	n-butyl acetate	10-25%
112-07-2	2-butoxyethyl acetate	10-25%
64742-95-6	Solvent naphtha (petroleum), light arom.	10-25%

3 Hazards identification

· **Hazard description:**



Irritant

· **Information pertaining to particular dangers for man and environment:**

The product has to be labelled due to the calculation procedure of international guidelines.
At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.
Has a narcotizing effect.
Flammable.
May cause sensitisation by skin contact.
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Repeated exposure may cause skin dryness or cracking.
Vapours may cause drowsiness and dizziness.
Contains isocyanates. See information supplied by the manufacturer.

· **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

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· **NFPA ratings (scale 0 - 4)**



Health = 0
Fire = 2
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 0
Fire = 2
Reactivity = 0

4 First aid measures

- **General information:** 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 wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.

5 Fire fighting measures

- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards caused by the material, its products of combustion or resulting gases:**
In case of fire, the following can be released:
Nitrogen oxides (NO_x)
Carbon monoxide (CO)
Hydrogen cyanide (HCN)
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.
- **Measures for environmental protection:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
Contain and collect spillages with non-combustible absorbent materials (e.g. sand, earth, diatomaceous earth) and place in a suitable container.

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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).

7 Handling and storage

· Handling:

· Information 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 protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· Storage:

· Requirements to be met by storerooms and receptacles: No special requirements.

· 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 receptacle tightly sealed.

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

8 Exposure controls and personal protection

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

· Components with limit values that require monitoring at the workplace:

108-65-6 2-methoxy-1-methylethyl acetate

WEEL	50 ppm
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123-86-4 n-butyl acetate

PEL	710 mg/m ³ , 150 ppm
REL	Short-term value: 950 mg/m ³ , 200 ppm Long-term value: 710 mg/m ³ , 150 ppm
TLV	Short-term value: 950 mg/m ³ , 200 ppm Long-term value: 713 mg/m ³ , 150 ppm

112-07-2 2-butoxyethyl acetate

REL	33 mg/m ³ , 5 ppm
	Skin
TLV	130 mg/m ³ , 20 ppm

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

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- **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.

Do not inhale gases / fumes / aerosols.

- **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:**



Protective gloves

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

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

- **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.

- **Penetration time of glove material**

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

- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

- **General Information**

Form:	Fluid
Color:	According to product specification
Odor:	Characteristic

- **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 124°C (255°F)

· **Flash point:** 38°C (100°F) (DIN 53213)

· **Ignition temperature:** 280°C (536°F) (DIN 51794)

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

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- **Explosion limits:**
 - Lower:** 0.7 Vol %
 - Upper:** 10.8 Vol %
- **Vapor pressure at 20°C (68°F):** 10.7 hPa (8 mm Hg)
- **Density at 20°C (68°F):** 0.989 g/cm³ (DIN 53217)
- **Solubility in / Miscibility with Water:** Not miscible or difficult to mix.
- **Viscosity:**
 - Kinematic at 20°C (68°F):** 13 s (DIN 53211/4)
- **Solvent separation test** < 3 %
- **Solvent content:**
 - Organic solvents:** 63.9 %
 - VOC content:** 63.9 %
 - 632.7 g/l / 5.28 lb/gl
- **Solids content (weight-%):** 36.0 %

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Dangerous products of decomposition:**
 - Possible in traces.
 - Nitrogen oxides
 - Hydrogen chloride (HCl)
 - Hydrogen cyanide (prussic acid)
 - Carbon monoxide
 - Nitrogen oxides (NOx)

11 Toxicological information

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

112-07-2 2-butoxyethyl acetate

Oral	LD50	2400 mg/kg (rat)
Dermal	LD50	1580 mg/kg (rabbit)

64742-95-6 Solvent naphtha (petroleum), light arom.

Oral	LD50	>6800 mg/kg (rat)
Dermal	LD50	>3400 mg/kg (rab)
Inhalative	LC50/4 h	>10.2 mg/l (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:

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12 Ecological information

- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **General notes:**
Water hazard class 2 (Self-assessment): 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

13 Disposal considerations

- **Product:**
- **Recommendation:**
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.

14 Transport information

· DOT regulations:



- **Hazard class:** 3
- **Identification number:** UN1263
- **Packing group:** III
- **Proper shipping name (technical name):** PAINT RELATED MATERIAL
- **Label:** 3

· Land transport ADR/RID (cross-border):



- **ADR/RID class:** 3 (F1) Flammable liquids
- **Danger code (Kemler):** 39
- **UN-Number:** 1263
- **Packaging group:** III
- **Label:** 3
- **Description of goods:** 1263 PAINT RELATED MATERIAL, special provision 640E

· Maritime transport IMDG:



- **IMDG Class:** 3
- **UN Number:** 1263

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- **Label** 3
- **Packaging group:** III
- **EMS Number:** F-E,S-E
- **Marine pollutant:** No
- **Propper shipping name:** PAINT RELATED MATERIAL

· **Air transport ICAO-TI and IATA-DGR:**



- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1263
- **Label** 3
- **Packaging group:** III
- **Propper shipping name:** PAINT RELATED MATERIAL

15 Regulations

· **Sara**

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

None of the ingredient is listed.

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

822-06-0 | hexamethylene-di-isocyanate

· **TSCA (Toxic Substances Control Act):**

All ingredients are 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.

· **Carcinogeny categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

112-07-2	2-butoxyethyl acetate	A3	10-25%
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· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

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· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· **Product related hazard informations:**

The product has been classified and marked in accordance with directives on hazardous materials.

· **Hazard symbols:**

Irritant

· **Hazard-determining components of labelling:**

Aliphatic polyisocyanate homopolymer (classification according to definition principle)

· **Risk phrases:**

Flammable.

May cause sensitisation by skin contact.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Repeated exposure may cause skin dryness or cracking.

Vapours may cause drowsiness and dizziness.

· **Safety phrases:**

Keep out of the reach of children.

Do not breathe fumes/aerosol.

Avoid contact with skin and eyes.

Wear suitable gloves.

In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.

If swallowed, seek medical advice immediately and show this container or label.

· **Special labeling of certain preparations:**

Contains isocyanates. See information supplied by the manufacturer.

· **National regulations:**

· **Information about limitation of use:**

112-07-2 2-butoxyethyl acetate

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Class	Share in %
NK	50-100

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.

· **Department issuing MSDS:** MIPA AG, Abteilung Umweltschutz

· **Contact:** Michaela Knall

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

USA