




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

- **Product identifier**
- **Trade name:** *Milla-Hardener AC 820 HS fast*
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the preparation** *Hardening agent/ Curing agent*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
*Mipa AG
Am Oberen Moos 1
D-84051 Essenbach
Tel.: +49(0)8703-922-0
Fax.: +49(0)08703-922-100
e-mail: sdb-registratur@mipa-paints.com
www.mipa-paints.com*
- **Further information obtainable from:** *Laboratory*
- **Emergency telephone number:** *+49(0)700 24112112 (MIP)*

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
 -  **Xn; Harmful**
R20: Harmful by inhalation.
 -  **Xi; Irritant**
R37: Irritating to respiratory system.
 -  **Xi; Sensitising**
R43: May cause sensitisation by skin contact.
- R10-66: Flammable. Repeated exposure may cause skin dryness or cracking.*
- **Information concerning particular hazards for human and environment:**
*The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.*
- **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
- **Label elements**
- **Labelling according to EU guidelines:**
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.
- **Code letter and hazard designation of product:**
Xn Harmful
- **Hazard-determining components of labelling:**
Hexamethylene diisocyanate, oligomers
- **Risk phrases:**
*10 Flammable.
20 Harmful by inhalation.
37 Irritating to respiratory system.
43 May cause sensitisation by skin contact.*

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66 Repeated exposure may cause skin dryness or cracking.

• **Safety phrases:**

- 2 Keep out of the reach of children.
- 9 Keep container in a well-ventilated place.
- 13 Keep away from food, drink and animal feedingstuffs.
- 24/25 Avoid contact with skin and eyes.
- 37 Wear suitable gloves.
- 46 If swallowed, seek medical advice immediately and show this container or label.

• **Special labelling of certain preparations:**

Contains isocyanates. See information supplied by the manufacturer
Restricted to professional users.

• **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 substances listed below with nonhazardous additions.

• **Dangerous components:**

CAS: 123-86-4 EINECS: 204-658-1	n-butyl acetate R10-66-67	25-50%
CAS: 28182-81-2 NLP: 500-060-2	Hexamethylene diisocyanate, oligomers ☒ Xn R20; ☒ Xi R37; ☒ Xi R43	25-50%
CAS: 108-65-6 EINECS: 203-603-9	2-methoxy-1-methylethyl acetate R10	2.5-10%
CAS: 112-07-2 EINECS: 203-933-3	2-butoxyethyl acetate ☒ Xn R20/21/22	≤5.0%
CAS: 64742-95-6 EINECS: 265-199-0	Solvent naphtha (petroleum), light arom. ☒ Xn R65; ☒ Xi R37; ☒ N R51/53 R10-66-67	≤2.5%
CAS: 1330-20-7 EINECS: 215-535-7	xylene ☒ Xn R20/21; ☒ Xi R38 R10	≤2.5%

• **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

• **Description of first aid measures**

• **General information:**

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 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.

• **Information for doctor:**

• **Most important symptoms and effects, both acute and delayed** No further relevant information available.

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- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **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.
In case of fire, the following can be released:
Nitrogen oxides (NO_x)
Carbon monoxide (CO)
Hydrogen cyanide (HCN)
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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 item 13.
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.
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).
- **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.

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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.

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.

- **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:**

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**

- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

- **Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

123-86-4 n-butyl acetate

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

Long-term value: 724 mg/m³, 150 ppm

28182-81-2 Hexamethylene diisocyanate, oligomers

EBW Short-term value: 0.5 mg/m³

exposition evaluation value TRGS 430 (EBW)

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

WEL Short-term value: 548 mg/m³, 100 ppm

Long-term value: 274 mg/m³, 50 ppm

Sk

112-07-2 2-butoxyethyl acetate

WEL Short-term value: 332 mg/m³, 50 ppm

Long-term value: 133 mg/m³, 20 ppm

Sk

1330-20-7 xylene

WEL Short-term value: 441 mg/m³, 100 ppm

Long-term value: 220 mg/m³, 50 ppm

Sk; BMGV

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· Ingredients with biological limit values:

1330-20-7 xylene

BMGV 650 mmol/mol creatinine
Medium: urine
Sampling time: post shift
Parameter: methyl hippuric acid

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

· Exposure controls

· 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:

Apply solvent resistant skin cream before starting work.
Do not eat, drink, smoke or sniff while working.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.

· 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.

Filter A/P2

· Protection of hands:



Protective gloves

· Material of gloves Butyl rubber, BR

· Penetration time of glove material Value for the permeation: Level ≥ 2

· For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:

Nitrile rubber, NBR

· Eye protection:



Tightly sealed goggles

· Body protection: Protective work clothing

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form: Fluid
Colour: According to product specification
· Odour: Characteristic
· Odour threshold: Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: 124°C

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· Flash point:	28°C (DIN 53213)
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	315°C (DIN 51794)
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	1.2 Vol %
Upper:	7.5 Vol %
· Vapour pressure at 20°C:	10.7 hPa
· Density at 20°C:	0.975 g/cm ³ (DIN 53217)
· Relative density	Not determined.
· Vapour 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:	13 s (DIN 53211/4)
· Solvent content:	
Organic solvents:	63.8 %
VOC (EC)	622.7 g/l
Solids content (weight-%):	36.2 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **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
 - Possible in traces.
 - Nitrogen oxides
 - Hydrogen chloride (HCl)
 - Hydrogen cyanide (prussic acid)
 - Carbon monoxide
 - Nitrogen oxides (NO_x)

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11 Toxicological information

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

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

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

Oral	LD50	>2000 mg/kg (rat)
Dermal	LD50	>2000 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 the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful
Irritant

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 (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.
- **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 together with household garbage. Do not allow product to reach sewage system.

- **European waste catalogue**

08 01 11* waste paint and varnish containing organic solvents or other dangerous substances

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Diluted caustic solution.



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14 Transport information

· UN-Number	UN1263
· ADR, IMDG, IATA	
· UN proper shipping name	1263 PAINT RELATED MATERIAL, special provision 640E
· ADR	PAINT RELATED MATERIAL
· IMDG, IATA	
· Transport hazard class(es)	
· ADR	
	
· Class	3 (F1) Flammable liquids.
· Label	3
· IMDG, IATA	
	
· Class	3 Flammable liquids.
· Label	3
· Packing group	III
· ADR, IMDG, IATA	
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	30
· EMS Number:	F-E,S-E
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Transport category	3
· Tunnel restriction code	D/E

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- National regulations:

· Information about limitation of use:

112-07-2	2-butoxyethyl acetate	4
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Class	Share in %
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.

· **Relevant phrases**

- R10 Flammable.
- R20 Harmful by inhalation.
- R20/21 Harmful by inhalation and in contact with skin.
- R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
- R37 Irritating to respiratory system.
- R38 Irritating to skin.
- R43 May cause sensitisation by skin contact.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R65 Harmful: may cause lung damage if swallowed.
- R66 Repeated exposure may cause skin dryness or cracking.
- R67 Vapours may cause drowsiness and dizziness.

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

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