

1 Identification

- **Product identifier**
- **Trade name: Mipa 2K-MS-Hardener MS 35 LV**
- **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
- Fleetwood Products Inc.
13 American Way Suite 15
USA - NJ 08884 Spotswood
Tel.: +1 7324169590
e.mail: fleet089@hotmail.com
- **Emergency telephone number:**
011 49(0)700 24112112 (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

Flam. Liq. 3 H226 Flammable liquid and vapor.



GHS07

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

STOT SE 3 H335 May cause respiratory irritation.

- **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:**

4-chloro-alpha,alpha,alpha-trifluorotoluene

Hexamethylene diisocyanate, oligomers

hexamethylene-di-isocyanate

- **Hazard statements**

H226 Flammable liquid and vapor.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

- **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.

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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 = 0
 Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



HEALTH 0 Health = 0
 FIRE 3 Fire = 3
 REACTIVITY 0 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:**

98-56-6	4-chloro-alpha, alpha, alpha-trifluorotoluene	50-100%
28182-81-2	Hexamethylene diisocyanate, oligomers	25-50%
123-86-4	n-Butyl acetate	2.5-<5%
112-07-2	2-Butoxyethyl acetate	1-<2.5%

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:**
 Generally the product does not irritate the skin.
 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:**
- **Indication of any immediate medical attention and special treatment needed**
 No further relevant information available.

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.

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- **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.

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 item 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:

28182-81-2	Hexamethylene diisocyanate, oligomers	7.8 mg/m ³
123-86-4	n-Butyl acetate	5 ppm
112-07-2	2-Butoxyethyl acetate	15 ppm
108-94-1	cyclohexanone	60 ppm
822-06-0	hexamethylene-di-isocyanate	0.018 ppm
77-58-7	dibutyltin dilaurate	1.1 mg/m ³

· PAC-2:

28182-81-2	Hexamethylene diisocyanate, oligomers	86 mg/m ³
123-86-4	n-Butyl acetate	200 ppm
112-07-2	2-Butoxyethyl acetate	35 ppm
108-94-1	cyclohexanone	830 ppm
822-06-0	hexamethylene-di-isocyanate	0.2 ppm
77-58-7	dibutyltin dilaurate	8 mg/m ³

· PAC-3:

28182-81-2	Hexamethylene diisocyanate, oligomers	510 mg/m ³
123-86-4	n-Butyl acetate	3000* ppm
112-07-2	2-Butoxyethyl acetate	210 ppm
108-94-1	cyclohexanone	5000* ppm
822-06-0	hexamethylene-di-isocyanate	3 ppm
77-58-7	dibutyltin dilaurate	48 mg/m ³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
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.

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Protect against electrostatic charges.

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **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.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 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

112-07-2 2-Butoxyethyl acetate

REL Long-term value: 33 mg/m³, 5 ppm

TLV Long-term value: 130 mg/m³, 20 ppm

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

- **Exposure controls**

- **Personal protective equipment:**

- **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.

- **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:**

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

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

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substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Eye protection:**



Tightly sealed goggles

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:**

30 °C (86 °F) (DIN 53213)

· **Flammability (solid, gaseous):**

Not applicable.

· **Ignition temperature:**

280 °C (536 °F) (DIN 51794)

· **Decomposition temperature:**

Not determined.

· **Auto igniting:**

Product is not selfigniting.

· **Danger of explosion:**

Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits:**

· **Lower:**

Not determined.

· **Upper:**

Not determined.

· **Vapor pressure at 50 °C (122 °F):**

38.6 hPa (29 mm Hg)

· **Density at 20 °C (68 °F):**

1.232 g/cm³ (10.281 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):**

13 s (DIN 53211/4)

· **Solvent content:**

· **VOC content:**

6.83 %

177 g/l / 1.5 lb/gal

· **Solids content (weight-%):**

36.2 %

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· **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

11 Toxicological information

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

98-56-6	4-chloro-alpha,alpha,alpha-trifluorotoluene	2B
108-94-1	cyclohexanone	3

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **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.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **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.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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· **Other adverse effects** No further relevant information available.

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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:** Disposal must be made according to official regulations.


14 Transport information

· UN-Number	UN1263
· DOT, ADR, IMDG, IATA	UN1263
· UN proper shipping name	Paint related material
· DOT	UN1263 PAINT RELATED MATERIAL, ENVIRONMENTALLY HAZARDOUS
· ADR	PAINT RELATED MATERIAL (CHLOROBENZOTRIFLUORIDES), MARINE POLLUTANT
· IMDG	PAINT RELATED MATERIAL
· IATA	PAINT RELATED MATERIAL
· Transport hazard class(es)	
· DOT	
	
· Class	3 Flammable liquids
· Label	3
· ADR	
	
· Class	3 (F1) Flammable liquids
· Label	3
· IMDG	
	
· Class	3 Flammable liquids

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· Label	3
· IATA	
	
· Class	3 Flammable liquids
· Label	3
· Packing group	
· DOT, ADR, IMDG, IATA	III
· Environmental hazards:	Product contains environmentally hazardous substances: dibutyltin dilaurate, 4-chloro-alpha,alpha,alpha-trifluorotoluene
· Marine pollutant:	No Yes (DOT) Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· 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:	
· DOT	
· Remarks:	Special marking with the symbol (fish and tree).
· ADR	
· Limited quantities (LQ)	5L
· IMDG	
· Limited quantities (LQ)	5L
· UN "Model Regulation":	UN 1263 PAINT RELATED MATERIAL, 3, III, ENVIRONMENTALLY HAZARDOUS

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

822-06-0 hexamethylene-di-isocyanate

· Hazardous Air Pollutants

822-06-0 hexamethylene-di-isocyanate

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· **Proposition 65**· **Chemicals known to cause cancer:**

98-56-6 4-chloro-alpha,alpha,alpha-trifluorotoluene

· **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.

· **Carcinogen categories**· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

112-07-2	2-Butoxyethyl acetate	A3	1-<2.5%
108-94-1	cyclohexanone	A3	<1%
77-58-7	dibutyltin dilaurate	A4	<0.1%

· **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:**

4-chloro-alpha,alpha,alpha-trifluorotoluene

Hexamethylene diisocyanate, oligomers

hexamethylene-di-isocyanate

· **Hazard statements**

H226 Flammable liquid and vapor.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

· **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	50-100

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

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** 06/25/2021 / 10

· **Abbreviations and acronyms:**

ICAO: International Civil Aviation Organisation

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ADR: Accord européen sur le transport 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

ACGIH: American Conference of Governmental Industrial Hygienists

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)

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

Flam. Liq. 3: Flammable liquids – Category 3

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.**