Safety Data Sheet
acc. to OSHA HCS

Printing date 12/06/2023 Reviewed on 09/28/2023

*
1 Identification

· **Product identifier**

· **Trade name: Mipa 2K-MS-Hardener MS 10 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:**
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 3 — H226 Flammable liquid and vapor.

GHS07

Eye Irritation 2A — H319 Causes serious eye irritation.
Sensitization - Skin 1 — H317 May cause an allergic skin reaction.
Specific Target Organ Toxicity - Single Exposure 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
Cyclohexanone
· **Hazard statements**
H226 Flammable liquid and vapor.
H319 Causes serious eye irritation.
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.

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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.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

Health = 1
Fire = 3
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = *2
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:**		
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	5-<10%
108-94-1	Cyclohexanone	≥1-<2.5%

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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. 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.

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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** 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:**		
28182-81-2	Hexamethylene diisocyanate, oligomers	7.8 mg/m³
123-86-4	n-Butyl acetate	5 ppm
108-94-1	Cyclohexanone	60 ppm
822-06-0	hexamethylene-di-isocyanate	0.018 ppm
77-58-7	dibutyltin dilaurate	1.1 mg/m³

· **PAC-2:**		
28182-81-2	Hexamethylene diisocyanate, oligomers	86 mg/m³
123-86-4	n-Butyl acetate	200 ppm
108-94-1	Cyclohexanone	830 ppm
822-06-0	hexamethylene-di-isocyanate	0.2 ppm
77-58-7	dibutyltin dilaurate	8 mg/m³

· **PAC-3:**		
28182-81-2	Hexamethylene diisocyanate, oligomers	510 mg/m³
123-86-4	n-Butyl acetate	3000* ppm
108-94-1	Cyclohexanone	5000* ppm
822-06-0	hexamethylene-di-isocyanate	3 ppm
77-58-7	dibutyltin dilaurate	48 mg/m³

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7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

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· **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:** 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.

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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: 150 ppm Long-term value: 50 ppm

108-94-1 Cyclohexanone	
PEL	Long-term value: 200 mg/m³, 50 ppm
REL	Long-term value: 100 mg/m³, 25 ppm Skin
TLV	Short-term value: 50 ppm Long-term value: 20 ppm Skin, BEI, A3

· **Ingredients with biological limit values:**

108-94-1 Cyclohexanone	
BEI	80 mg/L Medium: urine Time: end of shift at end of workweek Parameter: 1.2-Cyclohexanediol (with hydrolysis, nonspecific, nonquantitative) 8 mg/L Medium: urine Time: end of shift Parameter: Cyclohexanol (with hydrolysis, nonspecific, nonquantitative)

· **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.
Avoid contact with the eyes.

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Avoid contact with the eyes and skin.

· **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 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.
· **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):**	Flammable.
· **Auto igniting:**	370 °C (698 °F) (DIN 51794)
· **Decomposition temperature:**	Not determined.

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· **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:	Not determined.
Upper:	Not determined.
· **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):**	1.231 g/cm³ (10.273 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:	Not determined.
· **Solvent content:**	
VOC content:	6.90 % 178 g/l / 1.5 lb/gal
Solids content (weight-%):	36.3 %
· **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** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** Carbon monoxide

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11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** 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

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· **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.

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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 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.
· **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.

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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, ENVIRONMENTALLY HAZARDOUS
· **IMDG**	PAINT RELATED MATERIAL (CHLOROBENZOTRIFLUORIDES), MARINE POLLUTANT
· **IATA**	PAINT RELATED MATERIAL

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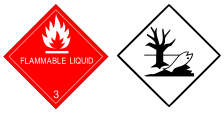
· **Transport hazard class(es)**

· **DOT**



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

· **ADR**

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

· **IMDG**

· **Class**	3 Flammable liquids
· **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).

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· **ADR**	
· **Limited quantities (LQ)**	5L
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **UN "Model Regulation":**	UN 1263 PAINT RELATED MATERIAL, 3, III, ENVIRONMENTALLY HAZARDOUS

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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.

· **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.

· **Cancerogenity categories**

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

· **TLV (Threshold Limit Value)**

108-94-1	Cyclohexanone	A3	≥1-<2.5%

· **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:**
4-chloro-alpha,alpha,alpha-trifluorotoluene
Hexamethylene diisocyanate, oligomers
Cyclohexanone
· **Hazard statements**
H226 Flammable liquid and vapor.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.

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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.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

· **National regulations:**

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

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.

· **Contact:**

· **Date of preparation / last revision** 12/06/2023

· **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)
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 3: Flammable liquids – Category 3
Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A
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.**