

2941013

Reviewed on: 08/11/2019

Printing date: 08/11/2019

## SECTION 01: Identification of the substance/mixture and of the company undertaking

- **1.1 Product identifier**
  - *Trade name:*  
MOTIVO 3959-99 HARDENER
  - Article number / Safety Data Sheet:  
H39590
  - *1.2 Relevant identified uses of the substance or mixture and uses advised against*
  - Application of the substance / the preparation  
Coating material
- **1.3 Details of the supplier of the safety data sheet**
  - *Manufacturer/Supplier:*  
Teknos Feyco AG  
Industriestrasse 3  
LI-9487 Gamprin-Bendern  
T +423 375 94 00  
F +423 375 94 99
  - *Further information obtainable from:*  
Product safety department. e-mail address: li-sdb@teknos.com
  - *1.4 Emergency telephone number:*  
Swiss Toxicological Information Centre Emergency telephone: +41 (0)44 251 51 51

## SECTION 02: Hazards identification

- *2.1 Classification of the substance or mixture*
- Classification according to Regulation (EC) No 1272/2008



GHS07

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

- *2.2 Label elements*
- Labelling according to Regulation (EC) No 1272/2008
- Hazard pictograms



GHS07

- Signal word  
Warning

- Hazard-determining components of labelling:  
polyisocyanate aliphatic
- Hazard statements  
H317 May cause an allergic skin reaction.  
EUH204 Contains isocyanates. May produce an allergic reaction.
- \* • Precautionary statements  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves.  
P302+P352 IF ON SKIN: Wash with plenty of water.  
P321 Specific treatment (see on this label).
- \* • P501 Dispose of contents/container in accordance with local/regional/ national/international regulations.
- **2.3 Other hazards**
  - *Results of PBT and vPvB assessment*
  - PBT:  
Not applicable.
  - vPvB:  
Not applicable.

2941013

Reviewed on: 08/11/2019  
Printing date: 08/11/2019

**PRODUCT : MOTIVO 3959-99 HARDENER**

(continued of page 1)

### SECTION 03: Composition/information on ingredients

• **3.2 Chemical characterization: Mixtures**

• **Description:**

Mixture of substances listed below with nonhazardous additions.

• **Dangerous components:**

CAS Number		%
28182-81-2	<b>polyisocyanate aliphatic</b> EC number: 500-060-2 Record number 01-2119485796-17 ⚠ Acute Tox. 4 - H332, Skin Sens. 1 - H317, STOT SE 3 - H335	60,00- 90,00
822-06-0	<b>hexamethylene-di-isocyanate</b> EC number: 212-485-8 Record number 01-2119457571-37 ⚠ Acute Tox. 1 - H330; ⚠ Resp. Sens. 1 - H334; ⚠ Acute Tox. 4 - H302, Skin Irrit. 2 - H315, Eye Irrit. 2 - H319, Skin Sens. 1 - H317, STOT SE 3 - H335	0,00- 0,50

### SECTION 04: First aid measures

• **4.1 Description of first aid measures**

• **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:**

Do not induce vomiting; call for medical help immediately.

• **Information for doctor:**

• **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

• **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### SECTION 05: Firefighting measures

• **5.1 Extinguishing media**

• **Suitable extinguishing agents:**

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

• **5.2 Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

• **5.3 Advice for firefighters**

• **Protective equipment:**

Mouth respiratory protective device.

Do not inhale explosion gases or combustion gases.

• **Additional information**

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

GB

(continued on page 3)

according to 1907/2006/EC, Article 31

2941013

Reviewed on: 08/11/2019

Printing date: 08/11/2019

**PRODUCT : MOTIVO 3959-99 HARDENER**

(continued of page 2)

### SECTION 06: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation
- **6.2 Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.
- **6.4 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.

### SECTION 07: Handling and storage

- **Handling:**
- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.  
Take note of emission threshold.
- **Information about fire - and explosion protection:**  
No special measures required.
- **7.2 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:**  
Not required.
- **Further information about storage conditions:**  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.
- **7.3 Specific end use(s)**  
No further relevant information available.

### SECTION 08: Exposure controls/personal protection

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

<b>822-06-0</b>	<b>hexamethylene-di-isocyanate</b>		
<b>WEL</b>			
	<b>Short-term value</b>	<b>0.07</b>	<b>mg/m3</b>
	<b>Long-term value</b>	<b>0.02</b>	<b>mg/m3</b>
	<b>Sen; as -NCO</b>		

- **Ingredients with biological limit values:**

*	<b>822-06-0</b>	<b>hexamethylene-di-isocyanate</b>
*	<b>BMGV</b>	
*		<b>1 µmol creatinine/mol</b>
*		<b>Medium: urine</b>
*		<b>Sampling time: At the end of the period od exposure</b>
*		<b>Parameter: isocyanate-derived diamine</b>

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

(continued on page 4)

according to 1907/2006/EC, Article 31

2941013

Reviewed on: 08/11/2019

Printing date: 08/11/2019

**PRODUCT : MOTIVO 3959-99 HARDENER**

(continued of page 3)

- *8.2 Exposure controls*
- **Personal protective equipment:**
- *General protective and hygienic measures:*  
The usual precautionary measures are to be adhered to when handling chemicals.  
Immediately remove all soiled and contaminated clothing  
Do not inhale gases / fumes / aerosols.  
Avoid contact with the eyes and skin.  
Do not eat or drink while working.  
Be sure to clean skin thoroughly after work and before breaks.
- *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. Suitable respiratory protective device recommended.*
- *Protection of hands: 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 Protective gloves Impervious gloves*
- **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.  
The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.
- *Eye protection: Safety glasses*
- *Body protection: Protective work clothing*

**SECTION 09: Physical and chemical properties****9.1 Information on basic physical and chemical properties****Appearance****Appearance:**

<b>Form:</b>	Liquid
<b>Colour:</b>	Colourless
<b>Odour:</b>	Characteristic Characteristic
<b>Odour threshold:</b>	Not determined.

**Change in condition**

<b>Initial boiling point and boiling range:</b>	190 °C
<b>Flash point:</b>	75 °C c.c.
<b>Flammability (solid, gas):</b>	Not applicable.
<b>Ignition temperature:</b>	270 °C
<b>Decomposition temperature:</b>	Not determined.
<b>Auto-ignition temperature:</b>	Not determined.
<b>Explosive properties:</b>	Not determined.
<b>Explosion limits:</b>	
<b>Lower:</b>	1 Vol %
<b>Upper:</b>	14 Vol %
<b>Vapour pressure:</b>	at 20 °C 0,4000 mbar
<b>Density:</b>	1,0700 g/cm <sup>3</sup>
<b>Solubility in / Miscibility with water:</b>	Not determined.
<b>Viscosity:</b>	
.	Not determined.
.	at 23 °C

**9.2 Other information**

No further relevant information available.

GB

(continued on page 5)

2941013

Reviewed on: 08/11/2019

Printing date: 08/11/2019

**PRODUCT : MOTIVO 3959-99 HARDENER**

(continued of page 4)

**SECTION 10: Stability and reactivity**

- \*
  - **10.1 Reactivity**  
No further relevant information available.
  - **10.2 Chemical stability**
  - **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
  - **10.3 Possibility of hazardous reactions**  
No dangerous reactions known.
  - **10.4 Conditions to avoid**  
No further relevant information available.
  - **10.5 Incompatible materials:**  
No further relevant information available.
  - **10.6 Hazardous decomposition products:**  
No dangerous decomposition products known.

**SECTION 11: Toxicological information**

- **11.1 Information on toxicological effects**
- **Acute toxicity**
- **LD/LC50 values relevant for classification:**  
**822-06-0 hexamethylene-di-isocyanate**  
Oral, LD50: 738 mg/kg (rat) Dermal, LD50: 593 mg/kg (rat)
- **Primary irritant effect:**
- Skin corrosion/irritation  
No irritant effect.
- Serious eye damage/irritation  
No irritating effect.
- **Respiratory or skin sensitisation**  
Sensitisation 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:  
Irritant

**SECTION 12: Ecological information**

- **12.1 Toxicity**
- Aquatic toxicity:  
No further relevant information available.
- **12.2 Persistence and degradability**  
No further relevant information available.
- **Behaviour in environmental systems:**
- **12.3 Bioaccumulative potential**  
No further relevant information available.
- 12.4 Mobility in soil  
No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (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.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:**  
Not applicable.
- **vPvB:**  
Not applicable.
- **12.6 Other adverse effects**  
No further relevant information available.

GB

(continued on page 6)

2941013

Reviewed on: 08/11/2019

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**PRODUCT : MOTIVO 3959-99 HARDENER***(continued of page 5)***SECTION 13: Disposal considerations**

- **13.1 Waste treatment methods**
- **European and swiss waste code**  
08  
WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS  
08 01  
wastes from MFSU and removal of paint and varnish  
08 01 11  
waste paint and varnish containing organic solvents or other hazardous substances
- **Uncleaned packaging:**
- **Recommendation:**  
Disposal must be made according to official regulations.

**SECTION 14: Transport information**

- **14.1 UN-Number**  
ADR Void  
IMDG Void  
IATA Void
- **14.2 UN proper shipping name**  
ADR Void  
IMDG Void  
IATA Void
- **14.3 Transport hazard class(es)**  
ADR  
Class Void  
IMDG  
Class Void  
IATA  
Class Void
- **14.4 Packing group**  
ADR Void  
IMDG Void  
IATA Void
- **14.5 Environmental hazards:**  
Not applicable.
- **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**  
Not applicable.
- **Transport/Additional information:**  
Not applicable.

**SECTION 15: Regulatory information**

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **REGULATION (EC) No 1907/2006 ANNEX XVII**  
Conditions of restriction: 3
- **National regulations:**
- **Information about limitation of use:**

*(continued on page 7)*

according to 1907/2006/EC, Article 31

2941013

Reviewed on: 08/11/2019

Printing date: 08/11/2019

**PRODUCT : MOTIVO 3959-99 HARDENER**

(continued of page 6)

The above-mentioned manufacturer's information on the handling of isocyanates is contained in the safety data sheet of the product. The European Committee of Paint, Printing Ink and Artists 'Colours Manufacturers' Associations (CEPE) provides the following information on coatings isocyanates: Ready-to-use paints containing isocyanates may have an irritant effect on mucous membranes - especially on breathing organs - and cause hypersensitivity reactions. Inhalation of vapour or spray mist may cause sensitisation. When handling paints containing isocyanates, all precautions required for solvent-containing paints must be followed. Vapour and spray mist in particular should not be inhaled. Persons who are allergic, asthmatic, or prone to respiratory ailments should not work with isocyanate-containing paints.

- **Classification according to VbF:**

–

- **Technical instructions (air):**

- **Class Share in %**

I 0,10

- **Waterhazard class:**

Water hazard class 1 (Self-assessment): slightly hazardous for water.

- **15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

## SECTION 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**

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.

- **Department issuing MSDS:**

Environment protection department.

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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)

VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

- **\* Data compared to the previous version altered.**