

**! SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Name of product GMK 2510 Hardener
Code-Nr. 162010

1.2. Relevant identified uses of the substance or mixture and uses advised against**Recommended intended purpose(s)**

Hardener

1.3. Details of the supplier of the safety data sheet**Distributor**

WEICON GmbH & Co. KG
Königsberger Str. 255, DE-48157 Münster
Postbox 48045, DE-8460 Münster
Phone ++49(0)251 / 9322 - 0, Fax ++49(0)251 / 9322 - 244
E-Mail : msds@weicon.de
Internet : www.weicon.de

Advice

Produktsicherheit / Product-Safety-Department
Phone ++49(0)251 / 9322 - 0
E-mail (competent person):
msds@weicon.de

1.4. Emergency telephone number

GIZ Bonn (German, English) Tel: ++49(0)228-19 240
TRANSPORT: Consultank Lutz Harder GmbH Tel: +49(0)178
433 7434 (24h Emergency Contact)

Manufacturer

WEICON GmbH & Co. KG
Königsberger Str. 255, DE-48157 Münster

1.4. Emergency telephone number**Emergency advice**

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Phone -
GIZ Bonn (Medizinische Auskunft in Deutsch und Englisch)
Tel: ++49(0)228-19 240
TRANSPORT: Consultank Lutz Harder GmbH Tel: +49(0)178
433 7434 (24h Emergency Contact)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]**

Hazard classes and Hazard categories	Hazard Statements	Classification procedure
Flam. Liq. 2	H225	
Skin Irrit. 2	H315	
Eye Irrit. 2	H319	
Resp. Sens. 1	H334	

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]

Hazard classes and Hazard categories	Hazard Statements	Classification procedure
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Skin Sens. 1	H317	
STOT SE 3	H336	

Hazard Statements

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H336	May cause drowsiness or dizziness.

2.2. Label elements
Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]


GHS02



GHS07



GHS08

Signal word

Danger

Hazard Statements

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H336	May cause drowsiness or dizziness.

Precautionary Statements

P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing vapours/spray.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/eye protection.
P285	In case of inadequate ventilation wear respiratory protection.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position 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.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P362	Take off contaminated clothing.

**GMK 2510 Hardener**

P370 + P378	In case of fire: Use water for extinction.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to hazardous or special waste collection point.

Hazardous ingredients for labeling

Triphenylmethan-4,4',4"-triisocyanat

! Special rules for supplemental label elements for certain mixtures

Contains isocyanates. May produce an allergic reaction.

2.3. Other hazards**Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/ information on ingredients**3.1. Substances**

not applicable

3.2. Mixtures**Hazardous ingredients**

CAS No	EC No	Name	[% weight]	Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]
101-68-8	202-966-0	diphenylmethane-4,4'-diisocyanate	< 0,1	Carc. 2, H351 / Acute Tox. 4, H332 / STOT RE 2, H373 / Eye Irrit. 2, H319 / STOT SE 3, H335 / Skin Irrit. 2, H315 / Resp. Sens. 1, H334 / Skin Sens. 1, H317
108-90-7	203-628-5	chlorobenzene	< 2,5	Flam. Liq. 3, H226 / Acute Tox. 4, H332 / Aquatic Chronic 2, H411
141-78-6	205-500-4	ethyl-acetate	ca. 70	Flam. Liq. 2, H225 / Eye Irrit. 2, H319 / STOT SE 3, H336
2422-91-5	219-351-8	Triphenylmethan-4,4',4"-triisocyanat	ca. 27	Skin Irrit. 2, H315 / Resp. Sens. 1, H334 / Skin Sens. 1, H317
103-71-9	203-137-6	Phenylisocyanat	< 0,05	Acute Tox. 1, H330 / Acute Tox. 4, H302 / Skin Corr. 1B, H314 / Resp. Sens. 1, H334 / Skin Sens. 1, H317 / STOT SE 3, H335 / Flam. Liq. 3, H226

! SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

Remove moisted clothing immediately.

! In case of inhalation

Ensure of fresh air.

In case of inhalation remove the casualty into fresh air and seek medical advice.

In case of skin contact

In case of contact with skin wash off with soap and water.

Consult a doctor if skin irritation persists.

In case of eye contact

In case of contact with eyes rinsing with plenty of lukewarm water carefully and seek for medical treatment.



In case of ingestion

Do not induce vomiting.

Refer to medical treatment.

4.2. Most important symptoms and effects, both acute and delayed

Physician's information / possible symptoms

Respiratory complaints

Physician's information / possible dangers

allergic reactions

4.3. Indication of any immediate medical attention and special treatment needed

Treatment (Advice to doctor)

If necessary, give oxygen.

Monitor circulation.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Foam

ABC powder

Carbon dioxide

sand

Water spray jet

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In case of fire formation of dangerous gases possible.

Nitrogen oxides (NO_x)

Carbon monoxide (CO)

Carbon dioxide (CO₂)

Hydrogen cyanide (HCN)

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Fire-fighting operations, rescue and clearing work under effect of combustion and smoulder gases just may be done with breathing apparatus.

Do not inhale explosion and/or combustion gases.

Additional information

Vapours are heavier than air and will spread on the ground.

Cool endangered containers with water spray jet.

Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Ensure adequate ventilation.

Use personal protective clothing.

Keep away sources of ignition.

Use breathing apparatus if exposed to vapours/dust/aerosol.



6.2. Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

Do not discharge into the subsoil/soil.

6.3. Methods and material for containment and cleaning up

After approx. 1 hour, transfer to suitable drum containers. Do not close these (likelihood of CO₂ production). Keep damp in the open air in a safe place for several days.

Ventilate area concerned

Take up with absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).

After taking up the material dispose according to regulation.

Additional Information

Sort out leaky cans and dispose according to regulations.

6.4. Reference to other sections

Safe handling: see section 7

Disposal: see section 13

Personal protection equipment: see section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Care for thoroughly room ventilation, if necessary use in well ventilated area with local exhaust ventilation at workplace.

Provide good room ventilation even at ground level (vapours are heavier than air).

Take the usual precautions when handling with chemicals.

General protective measures

Avoid contact with eyes and skin

Do not inhale gases/vapours/aerosols.

Hygiene measures

At work do not eat, drink and smoke.

Keep separated from food and feed.

Wash hands before breaks and after work.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking

Protect from heat and sunlight.

Vapours can form an explosive mixture with air.

Take precautionary measures against static discharges.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep only in original container.

Advice on storage compatibility

Do not store with oxidizing agents.

Do not store together with animal feedstuffs.

Do not store together with food.

Keep away from water.

Further information on storage conditions

Keep container tightly closed and store at cool and aired place.

Store only at temperature of 30°C maximum (=86°F).

Protect from heat and direct solar radiation.

Store in a dry place.

**7.3. Specific end use(s)****Recommendation(s) for intended use**

See section 1.2

! SECTION 8: Exposure controls/personal protection**8.1. Control parameters****! Ingredients with occupational exposure limits to be monitored**

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
110-82-7	Cyclohexane	8 hours Short-term	350 1050	1050 300	EH40/2005
141-78-6	Ethyl acetate	8 hours Short-term		200 400	EH40/2005

Indicative occupational exposure limit values (91/322/EEC, 2000/39/EC, 2006/15/EC or 2009/161/EU)

CAS No	Name	Code	[mg/m3]	[ppm]	Remark
108-90-7	monochlorobenzene	8 hours Short-term	23 70	5 15	

Additional advice

The statutory local and national regulations have to be observed.

8.2. Exposure controls**Respiratory protection**

Breathing apparatus in the event of high concentrations.

Short term: filter apparatus, filter A

! Hand protection

In the cases of special applications, it is recommended to check the chemical resistance with the manufacturer of the gloves.

Not suitable: PVC gloves

Glove material specification [make/type, thickness, permeation time/life, wetting resistance]: NBR (Nitrile rubber) oder

Butyl rubber, $\geq 0,5$ mm, ≥ 60 min**Eye protection**

tightly fitting goggles

Other protection measures

protective clothing

Appropriate engineering controls

Care for thoroughly room ventilation, if necessary use in well ventilated area with local exhaust ventilation at workplace.

! SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance**

liquid

Colour

various

Odour

aromatic

Odour threshold

No data available

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value	not determined				



Safety Data Sheet according to Regulation (EC)

No. 1907/2006 (REACH)

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GMK 2510 Hardener

	Value	Temperature	at	Method	Remark
Acid number	Not required				
boiling point	ca. 77 °C			DIN 53217	
melting point	not applicable				
Flash point	-4 °C			DIN 51755	
Vapourisation rate	No data available				
Flammable (solid)	No data available				
Flammability (gas)	No data available				
Ignition temperature	not determined				
Self ignition temperature	460 °C				
Lower explosion limit	2,2 Vol-%				Information refers to the main component.
Upper explosion limit	11,5 Vol-%				Information refers to the main component.
Vapour pressure	ca. 97 hPa	20 °C			
Relative density	ca. 1 g/cm ³	20 °C		DIN 53217	
Bulk density	No data available				
Vapour density	No data available				
Solubility in water	not determined				
Solubility/other	not determined				
Partition coefficient n-octanol/water (log P O/W)	not determined				
Decomposition temperature	not determined				
Viscosity dynamic	ca. 3 mPa*s	20 °C		DIN 53015	
Viscosity kinematic	not determined				
Oxidising properties	No data available				
Explosive properties	No data available				

**9.2. Other information**

No information available.

SECTION 10: Stability and reactivity**10.1. Reactivity**

No information available.

10.2. Chemical stability

No information available.

10.3. Possibility of hazardous reactions

Exothermic reaction with alcohols and amines.

Danger of bursting container.

Reactions with oxidising agents.

Reactions with water.

10.4. Conditions to avoid

In case of temperature increase (heating): explosion risk.

Keep away from heat.

10.5. Incompatible materials**Substances to avoid**

Alcohols

Amines

Oxidising agent

Water

10.6. Hazardous decomposition products

Gases / vapours, highly flammable

Carbon dioxide

Thermal decomposition

Remark No decomposition if used as directed.

! SECTION 11: Toxicological information**11.1. Information on toxicological effects****Acute toxicity/Irritation/Sensitization**

	Value/Validation	Species	Method	Remark
LD50 acute oral	> 2500 mg/kg	rat	OECD 423	Toxicology test with the product.
LD50 acute dermal	> 5000 mg/kg	rabbit		Information refers to the main component.
LC50 acute inhalation	29,3 - 58,6 mg/l (4 h)	rat		Informations concern to main component.
Skin irritation	irritant	rabbit	OECD 404	Toxicology tests with the product
Eye irritation	irritant			
Skin sensitization	sensitizing	Guinea pig	OECD 406	Toxicology test with the product.

Subacute Toxicity - Carcinogenicity

Value	Species	Method	Validation
Mutagenicity			No experimental in-vitro information available.
Reproduction-Toxicity			No indications of toxic effects were observed in reproduction studies in animals.
Carcinogenicity			No indications of carcinogenic effects are available from long-term trials.

Specific target organ toxicity (single exposure)

May cause drowsiness or dizziness.

Experiences made from practice

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

At higher concentrations: narcotic effect, symptoms of being drunk or agitated

May cause drowsiness or dizziness.

Frequent persistent contact with the skin may cause skin irritation.

! Additional information

The product is to be handled with the caution usual with chemicals.

Other hazardous properties may not be excluded.

The product has not been tested. The information is derived from the properties of the individual components.

! SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicological effects

Value	Species	Method	Validation
Fish	Danio rerio	OECD 203	No noticeable toxic effect in saturated solution.
Daphnia	Daphnia magna	OECD 202	No noticeable toxic effect in saturated solution.
Algae	Scenedesmus subspicatus	OECD 201	No noticeable toxic effect in saturated solution.
Bacteria EC50 > 100000 mg/l	activated sludge	OECD 209	

12.2. Persistence and degradability

Elimination rate	Method of analysis	Method	Validation
Biological degradability 41,5 % (28 d)		OECD 301 F	not readily degradable
Ecotoxicological tests carried out to determine the properties of the solvent free product			

12.3. Bioaccumulative potential

Because of its consistency the product cannot be dispersed in the environment. Adverse ecological effects are therefore unlikely on the basis of current knowledge.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**12.6. Other adverse effects****Respiration inhibition of activated sludge**

	Value	Method	Remark
EC 50	> 10000 mg/l	OECD 209	Toxicology test with the product.

! General regulation

Do not allow uncontrolled leakage of product into the environment.

Product is not allowed to be discharged into aquatic environment, drains or sewage treatment plants.

The ecotoxic effect of the product has not been tested. The information on this is given on the basis of details in the literature.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Waste code No.**

08 04 09*

Name of waste

waste adhesives and sealants containing organic solvents or other hazardous substances

Wastes marked with an asterisk are considered to be hazardous waste pursuant to Directive 2008/98/EC on hazardous waste.

Recommendations for the product

Remove in accordance with local official regulations.

Recommendations for packaging

Dispose of according to the local waste regulations.

Packaging that cannot be cleaned should be disposed of like the product.

General information

Assignment to a waste code number / waste identification according to the EWC is to be carried out on a sector or process-specific basis.

! SECTION 14: Transport information

	ADR/RID	IMDG	IATA-DGR
14.1. UN number	1993	1993	1993
14.2. UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (Ethylacetat, Monochlorbenzol)	FLAMMABLE LIQUID, N.O.S. (Ethylacetat, Monochlorbenzol)	Flammable liquid, n.o.s. (Ethylacetat, Monochlorbenzol)
14.3. Transport hazard class(es)	3	3	3
14.4. Packing group	II	II	II
14.5. Environmental hazards	No	No	No

14.6. Special precautions for user

No information available.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

**Land and inland navigation transport ADR/RID**

Hazard label(s) 3

tunnel restriction code D/E

Special provisions 640D

Classification code F1

! SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****VOC standard**

VOC content >99 %

VOC value 990 g/L

15.2. Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

! SECTION 16: Other information**! Recommended uses and restrictions**

National and local regulations concerning chemicals shall be observed.

For industrial use only.

Further information

Each user is responsible for the implementation of the national special regulations.

The information contained herein is based on the state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

Please observe the following disclaimer! --- Our safety data sheets have been compiled according to effective EU-directives, WITHOUT taking into account the special national directives concerning the handling of hazardous substances.

Indication of changes: "!" = Data changed compared with the previous version. Previous version: 1.5

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

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.

H336 May cause drowsiness or dizziness.

H351 Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).

H373 May cause damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).

H411 Toxic to aquatic life with long lasting effects.