

SAFETY DATA SHEET according to Regulation 1907/2006



Product name: **9220 Hardener**

Creation date: **2.2.2011** · Revision: **9.8.2019** · Version: **1**

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name

9220 Hardener



chemius.net/QEmb4

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses

Hardener

Uses advised against

No information.

1.3. Details of the supplier of the safety data sheet

Manufacturer

SILCO, D.O.O.

Address: Šentrupert 5 a, 3303 Gomilsko, Slovenia

Phone: +386 3 703 3180

Fax: +386 3 703 3188

E-mail: n.cvilak@silco-automotive.com

Point of contact for safety info: Nejc Cvilak

1.4. Emergency telephone number

Emergency

112

Supplier

+386 3 703 3180

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Flam. Liq. 3; H226 Flammable liquid and vapour.

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

STOT SE 3; H336 May cause drowsiness or dizziness.

SAFETY DATA SHEET according to Regulation 1907/2006



Product name: **9220 Hardener**

Creation date: **2.2.2011** · Revision: **9.8.2019** · Version: **1**

2.2 Label elements

2.2.1. Labelling according to Regulation (EC) No 1272/2008 [CLP]



Signal word: **Warning**

H226 Flammable liquid and vapour.

H317 May cause an allergic skin reaction.

H336 May cause drowsiness or dizziness.

EUH066 Repeated exposure may cause skin dryness or cracking.

EUH204 Contains isocyanates. May produce an allergic reaction.

P240 Ground and bond container and receiving equipment.

P272 Contaminated work clothing should not be allowed out of the workplace.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P403 + P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with national regulation.

2.2.2. Contains:

n-butyl acetate (CAS: 123-86-4, EC: 204-658-1, Index: 607-025-00-1)

ethyl acetate (CAS: 141-78-6, EC: 205-500-4, Index: 607-022-00-5)

1,6-hexamethylene diisocyanate homopolymer (CAS: 28182-81-2, EC: 500-060-2)

2.2.3. Special provisions

Special hazards are not known or expected.

2.3. Other hazards

No information.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

For mixtures see 3.2.

SAFETY DATA SHEET according to Regulation 1907/2006



Product name: **9220 Hardener**

Creation date: **2.2.2011** · Revision: **9.8.2019** · Version: **1**

3.2. Mixtures

Name	CAS EC Index	%	Classification according to Regulation (EC) No 1272/2008 (CLP)	Specific Conc. Limits	REACH Registration No.
n-butyl acetate	123-86-4 204-658-1 607-025-00-1	40-70	Flam. Liq. 3; H226 STOT SE 3; H336 EUH066		-
2-methoxy-1-methylethyl acetate	108-65-6 203-603-9 607-195-00-7	5-15	Flam. Liq. 3; H226		-
xylene [C]	1330-20-7 215-535-7 601-022-00-9	0-10	Flam. Liq. 3; H226 Acute Tox. 4; H312 Skin Irrit. 2; H315 Acute Tox. 4; H332		-
ethyl acetate	141-78-6 205-500-4 607-022-00-5	0-10	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 EUH066		-
ethylbenzene	100-41-4 202-849-4 601-023-00-4	1-3	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Acute Tox. 4; H332 STOT RE 2; H373 (hearing organs)		-
1,6-hexamethylene diisocyanate homopolymer	28182-81-2 500-060-2 -	25-50	Skin Sens. 1; H317		-

Notes for substances:

C Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers.
In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.

SECTION 4. FIRST AID MEASURES

4.1. Description of first aid measures

General notes

-

Following inhalation

Ventilate the premises. Inhale fresh air. Remove patient to fresh air - move out of dangerous area. Seek medical help immediately.

Following skin contact

Immediately remove contaminated clothing. Wash affected skin areas thoroughly with plenty of water and soap. If symptoms develop and persist, seek medical attention.

Following eye contact

Immediately flush eyes with plenty of water, keeping eyelids open. (for at least 10 minutes) If irritation does not stop, seek professional medical treatment!

Following ingestion

Do not induce vomiting! Immediately consult a doctor. Do not in any case administer milk, vegetable or animal fat.

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

Inhalation

Vapours may cause drowsiness and dizziness.

SAFETY DATA SHEET according to Regulation 1907/2006



Product name: **9220 Hardener**

Creation date: **2.2.2011** · Revision: **9.8.2019** · Version: **1**

Skin contact

May cause sensitisation by skin contact (symptoms: itching, redness, rashes).
Repeated exposure may cause dry skin or cracked skin.

Eye contact

-

Ingestion

-

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

-

SECTION 5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media

Fire extinguishing powder.
Carbon dioxide (CO₂).
Foam.
Water spray.

Unsuitable extinguishing media

No special precautions required.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

-

5.3. Advice for firefighters

Protective actions

In case of fire or heating do not breathe fumes/vapours. Cool containers at risk with water spray. If possible remove containers from endangered area.

Special protective equipment for firefighters

Firefighters should wear appropriate protective clothing for firefighters (including helmets, protective boots and gloves) (EN 469) and self-contained breathing apparatus (SCBA) with a full face-piece (EN 137).

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment

Wear suitable protective face mask, protective gloves and clothing.

Emergency procedures

Keep away from sources of ignition and/or heat; No smoking!

6.1.2. For emergency responders

-

6.2. Environmental precautions

Do not allow product to reach water/drains/sewage systems and ground water. If accidental large entry into water or ground occurs, inform responsible authorities.

SAFETY DATA SHEET according to Regulation 1907/2006



Product name: **9220 Hardener**

Creation date: **2.2.2011** · Revision: **9.8.2019** · Version: **1**

6.3. Methods and material for containment and cleaning up

6.3.1. For containment

-

6.3.2. For cleaning up

Absorb product (with inert material), collect it in special container and dispose it to a licensed hazardous-waste disposal contractor.

6.3.3. Other information

-

6.4. Reference to other sections

See also Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1. Protective measures

Measures to prevent fire

-

Measures to prevent aerosol and dust generation

-

Measures to protect the environment

-

7.1.2. Advice on general occupational hygiene

Do not breathe vapours/mist. Consider measures required in Section 8 of this safety data sheet. Do not eat, drink or smoke while working.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1. Technical measures and storage conditions

Keep away from open fire, heat, sparks and direct sunlight. Keep in cool and well ventilated area.

7.2.2. Packaging materials

-

7.2.3. Requirements for storage rooms and vessels

-

7.2.4. Storage class

-

7.2.5. Further information on storage conditions

-

7.3. Specific end use(s)

Recommendations

Keep away from incompatible material (see section 10).

Industrial sector specific solutions

-

Product name: **9220 Hardener**

Creation date: **2.2.2011** · Revision: **9.8.2019** · Version: **1**

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1. Occupational exposure limit values

Name (CAS)	Limit values		Short-term exposure limit		Remarks	Biological Tolerance Values
	ml/m ³ (ppm)	mg/m ³	ml/m ³ (ppm)	mg/m ³		
Butyl acetate (123-86-4)	150	724	200	966		
Ethyl acetate (141-78-6)	200	734	400	1468		
Ethylbenzene (100-41-4)	100	441	125	552	Sk	
1-Methoxypropyl acetate (108-65-6)	50	274	100	548	Sk	
Xylene, o-,m-,p- or mixed isomers (1330-20-7)	50	220	100	441	Sk, BMGV	650 mmol methyl hippuric acid/mol creatinine in urine - Post shift

8.1.2. Information on monitoring procedures

BS EN 14042:2003 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. BS EN 482:2012+A1:2015 Workplace exposure. General requirements for the performance of procedures for the measurement of chemical agents. BS EN 689:2018 Workplace exposure. Measurement of exposure by inhalation to chemical agents. Strategy for testing compliance with occupational exposure limit values.

8.1.3. DNEL/DMEL values

No information.

8.1.4. PNEC values

No information.

8.2. Exposure controls

8.2.1. Appropriate engineering control

Substance/mixture related measures to prevent exposure during identified uses

Use good personal hygiene practices – wash hands at breaks and when done working with material.

Technical measures to prevent exposure

Provide good ventilation and local exhaust in areas with increased concentration.

8.2.2. Personal protective equipment

Eye and face protection

Tight fitting protective goggles (EN 166).

Hand protection

Protective gloves (EN 374).

Appropriate materials

Material	Thickness	Penetration Time	Remark
Neoprene			
PVC			

Skin protection

Cotton protective clothing and shoes that cover the entire foot (EN ISO 20345).

Respiratory protection

Wear suitable protective breathing mask (EN 136) with filter A2-P2 (EN 14387). Filter type CEN/FFP-2(S) or CEN/FFP-3(S).

SAFETY DATA SHEET according to Regulation 1907/2006



Product name: **9220 Hardener**

Creation date: **2.2.2011** · Revision: **9.8.2019** · Version: **1**

Thermal hazards

-

8.2.3. Environmental exposure controls

-

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

-	Physical state:	liquid
-	Colour:	colourless
-	Odour:	solvent like

Important health, safety and environmental information

-	pH	No information.
-	Melting point/freezing point	No information.
-	Initial boiling point/boiling range	No information.
-	Flash point	25 °C
-	Evaporation rate	No information.
-	Flammability (solid, gas)	No information.
-	Explosion limits (vol%)	No information.
-	Vapour pressure	No information.
-	Vapour density	> 1
-	Density	No information.
-	Solubility	No information.
-	Partition coefficient	No information.
-	Auto-ignition temperature	No information.
-	Decomposition temperature	No information.
-	Viscosity	No information.
-	Explosive properties	No information.
-	Oxidising properties	No information.

9.2. Other information

-	Remarks:	
---	-----------------	--

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

-

10.2. Chemical stability

Product is stable under normal conditions of use, recommended handling and storage conditions.

10.3. Possibility of hazardous reactions

-

10.4. Conditions to avoid

Protect from heat, direct sunlight, open fire, sparks.

SAFETY DATA SHEET according to Regulation 1907/2006



Product name: **9220 Hardener**

Creation date: **2.2.2011** · Revision: **9.8.2019** · Version: **1**

10.5. Incompatible materials

Oxidants.
Strong acids. Metals.

10.6. Hazardous decomposition products

Under normal use conditions no hazardous decomposition products are expected.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

(a) Acute toxicity

Name	Exposure route	Type	Species	Time	Value	Method	Remark
n-butyl acetate (123-86-4)	oral	LD ₅₀	mouse		6 mg/kg		
n-butyl acetate (123-86-4)	oral	LD ₅₀	rat		10768 mg/kg		
2-methoxy-1-methylethyl acetate (108-65-6)	dermal	LD ₅₀	rat		5000 mg/kg		
2-methoxy-1-methylethyl acetate (108-65-6)	oral	LD ₅₀	rat		8532 mg/kg		
xylene (1330-20-7)	oral	LD ₅₀	rat		5000 mg/kg		
ethylbenzene (100-41-4)	oral	LD ₅₀	rat		4710 mg/kg		
ethylbenzene (100-41-4)	oral	LD ₅₀	rat		3500 mg/kg		

(b) Skin corrosion/irritation

No information.

(c) Serious eye damage/irritation

No information.

(d) Respiratory or skin sensitisation

No information.

(e) (Germ cell) mutagenicity

No information.

(f) Carcinogenicity

No information.

(g) Reproductive toxicity

No information.

Summary of evaluation of the CMR properties

No information.

(h) STOT-single exposure

No information.

(i) STOT-repeated exposure

No information.

(j) Aspiration hazard

No information.

SAFETY DATA SHEET according to Regulation 1907/2006



Product name: **9220 Hardener**

Creation date: **2.2.2011** · Revision: **9.8.2019** · Version: **1**

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1. Acute (short-term) toxicity

For components

Substance (CAS Nr.)	Type	Value	Exposure time	Species	Organism	Method	Remark
n-butyl acetate (123-86-4)	EC ₅₀	32 mg/L	48 h	crustacea			
	LC ₅₀	18 – 19 mg/L	96 h	fish			
	LC ₅₀	62 mg/L	96 h	fish			
	LC ₅₀	185 mg/L	96 h	fish			
	LC ₅₀	18 mg/L	96 h	fish			
	LC ₅₀	100 mg/L	96 h	fish			
2-methoxy-1-methylethyl acetate (108-65-6)	LC ₅₀	100 – 180 mg/L	96 h	fish			
	EC ₅₀	500 mg/L	48 h	crustacea			
xylene (1330-20-7)	EC ₅₀	7,4 mg/L	48 h	crustacea			
ethylbenzene (100-41-4)	EC ₅₀	33 mg/L	72 h	algae			
	LC ₅₀	12 mg/L	96 h	fish			

12.1.2. Chronic (long-term) toxicity

No information.

12.2. Persistence and degradability

12.2.1. Abiotic degradation, physical- and photo-chemical elimination

No information.

12.2.2. Biodegradation

For components

Substance (CAS Nr.)	Type	Rate	Time	Evaluation	Method	Remark
ethylbenzene (100-41-4)	aerobic				OECD 301 A (Modified AFNOR Test)	

12.3. Bioaccumulative potential

12.3.1. Partition coefficient

No information.

12.3.2. Bioconcentration factor (BCF)

No information.

12.4. Mobility in soil

12.4.1. Known or predicted distribution to environmental compartments

No information.

12.4.2. Surface tension

No information.

12.4.3. Adsorption/Desorption

No information.

12.5. Results of PBT and vPvB assessment

No evaluation.

SAFETY DATA SHEET according to Regulation 1907/2006



Product name: **9220 Hardener**

Creation date: **2.2.2011** · Revision: **9.8.2019** · Version: **1**

12.6. Other adverse effects

No information.

12.7. Additional information

For product

Do not allow to reach ground water, water courses or sewage system.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

13.1.1. Product / Packaging disposal

Waste chemical

Recycle or dispose according to official regulations: to leave it to authorized collector/remover/transformer of hazardous waste.

Packaging

Deliver completely emptied containers to approved waste disposal authorities.

13.1.2. Waste treatment-relevant information

-

13.1.3. Sewage disposal-relevant information

-

13.1.4. Other disposal recommendations

-

SECTION 14. TRANSPORT INFORMATION

14.1. UN number

UN 1263

14.2. UN proper shipping name

PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

3

14.4. Packing group

III

14.5. Environmental hazards

NO.

14.6. Special precautions for user

Limited quantities

5 L

Tunnel restriction code

(D/E)

IMDG flashpoint

25 °C, c.c.

IMDG EmS

F-E, S-E



SAFETY DATA SHEET according to Regulation 1907/2006



Product name: **9220 Hardener**

Creation date: **2.2.2011** · Revision: **9.8.2019** · Version: **1**

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Goods may not be carried in bulk in bulk containers, containers or vehicles.

SECTION 15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (including last amendment Commission Regulation (EU) 2015/830)

- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

15.1.1. Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline)

Not applicable.

15.2. Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16. OTHER INFORMATION

Indication of changes

-

Abbreviations and acronyms

ATE - Acute Toxicity Estimate
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
CEN - European Committee for Standardisation
C&L - Classification and Labelling
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
CAS# - Chemical Abstracts Service number
CMR - Carcinogen, Mutagen, or Reproductive Toxicant
CSA - Chemical Safety Assessment
CSR - Chemical Safety Report
DMEL - Derived Minimal Effect Level
DNEL - Derived No Effect Level
DPD - Dangerous Preparations Directive 1999/45/EC
DSD - Dangerous Substances Directive 67/548/EEC
DU - Downstream User
EC - European Community
ECHA - European Chemicals Agency
EC-Number - EINECS and ELINCS Number (see also EINECS and ELINCS)
EEA - European Economic Area (EU + Iceland, Liechtenstein and Norway)
EEC - European Economic Community
EINECS - European Inventory of Existing Commercial Substances
ELINCS - European List of notified Chemical Substances
EN - European Standard
EQS - Environmental Quality Standard
EU - European Union
Euphrac - European Phrase Catalogue
EWC - European Waste Catalogue (replaced by LoW – see below)
GES - Generic Exposure Scenario
GHS - Globally Harmonized System
IATA - International Air Transport Association
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG - International Maritime Dangerous Goods
IMSBC - International Maritime Solid Bulk Cargoes
IT - Information Technology
IUCLID - International Uniform Chemical Information Database

SAFETY DATA SHEET according to Regulation 1907/2006



Product name: **9220 Hardener**

Creation date: **2.2.2011** · Revision: **9.8.2019** · Version: **1**

IUPAC - International Union for Pure Applied Chemistry
JRC - Joint Research Centre
Kow - octanol-water partition coefficient
LC₅₀ - Lethal Concentration to 50 % of a test population
LD₅₀ - Lethal Dose to 50% of a test population (Median Lethal Dose)
LE - Legal Entity
LoW - List of Wastes (see <http://ec.europa.eu/environment/waste/framework/list.htm>)
LR - Lead Registrant
M/I - Manufacturer / Importer
MS - Member States
MSDS - Material Safety Data Sheet
OC - Operational Conditions
OECD - Organization for Economic Co-operation and Development
OEL - Occupational Exposure Limit
OJ - Official Journal
OR - Only Representative
OSHA - European Agency for Safety and Health at work
PBT - Persistent, Bioaccumulative and Toxic substance
PEC - Predicted Effect Concentration
PNEC(s) - Predicted No Effect Concentration(s)
PPE - Personal Protection Equipment
(Q)SAR - Qualitative Structure Activity Relationship
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
RIP - REACH Implementation Project
RMM - Risk Management Measure
SCBA - Self-Contained Breathing Apparatus
SDS - Safety data sheet
SIEF - Substance Information Exchange Forum
SME - Small and Medium sized Enterprises
STOT - Specific Target Organ Toxicity
(STOT) RE - Repeated Exposure
(STOT) SE - Single Exposure
SVHC - Substances of Very High Concern
UN - United Nations
vPvB - Very Persistent and Very Bioaccumulative

Key literature references and sources for data

-

List of relevant H phrases

H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H373 May cause damage to organs through prolonged or repeated exposure .
EUH066 Repeated exposure may cause skin dryness or cracking.

SAFETY DATA SHEET according to Regulation 1907/2006



Product name: **9220 Hardener**

Creation date: **2.2.2011** · Revision: **9.8.2019** · Version: **1**



- Provided correct labelling of the product
- Compliance with the local legislation
- Provided correct classification of the product

The information of this SDS is based on the present state of our knowledge and meets the requirements of EU and national laws. The user's working conditions however, are beyond our knowledge and control. The product is not to be used for purposes other than those specified under Section 7 without a written permission. It remains the responsibility of the user to ensure that the necessary steps are taken to meet the laws and regulations. Handling of the product may only be done by people above 18 years of age, who are satisfactorily informed of how to do the work, the hazardous properties and necessary safety precautions. The information given in this SDS is to describe the product only in terms of health and safety requirements and should not, therefore, be construed as guaranteeing specific properties.

© BENS Consulting, www.bens-consulting.com