

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

1.1. Product identifier

Product name: Hardener CE, liquid (Prod-# 607)

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

Product use: Repair material hardener

1.3. Details of the supplier of the safety data sheet

Manufacturer / Supplier: MultiMetall Reiner Schulze e.K.
Spenglerstraße 3
D-41749 Viersen
Phone: +49 (0) 2162/97009-0
Fax: +49 (0) 2162/97009-11
Email: info@polymermetal.com

Responsibility Safety data sheet: Email: msds@polymermetal.com

1.4. Emergency telephone number

Emergency contact number: Phone: +49 (0) 2162/97009-0

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Product definition: Mixture

Classification according to Directive (EC) No. 1272/2008 (CLP):

Acute Tox.	Category 4	H302 Harmful if swallowed.
Skin Corr. / Irrit.	Category 1B	H314 Causes severe skin burns and eye damage.
Skin Sens.	Category 1	H317 May cause an allergic skin reaction.
Muta.	Category 2	H341 Suspected of causing genetic defects.

Classification according to Directive No. 67/548/EWG or 1999/45/EC:

Muta.Cat.3, R68
Xn, R21/22
C, R34
R43

The full text of the R-phrases declared above can be found in Section 16.

2.2. Label elements

Labelling according to Directive (EEC) No. 1272/2008 (CLP):

Hazard pictograms:



Signal word: Danger

Hazard statements: H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.

H341 Suspected of causing genetic defects.

Precautionary statements:

P280 Wear protective gloves / protective clothing / eye protection / face protection.
 P303+361+353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
 P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
 P310 Immediately call a POISON CENTRE, doctor.
 P333+313 If skin irritation or a rash occurs: Get medical advice/attention.

Hazardous ingredients (labelling):

phenol, polymer with diethylentriamine and formaldehyde
 diethylentriamine
 phenol

2.3. Other hazards

Not available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Not applicable

3.2. Mixtures

Hazardous components	Identifiers	%	Classification by 67/548/EEC	Classification by (EC) Nr. 1272/2008 (CLP)
phenol, polymer with diethylentriamine and formaldehyde	CAS: 55552-95-9 REACH-RNo - EG-Nr.: - Index: -	35 - 49	Corrosive, C, R34, R43	Skin Sens. 1, H317 Skin Corr. / Irrit. 1B, H314
diethylentriamine	CAS: 111-40-0 REACH-RNo - EG-Nr.: 203-865-4 Index: -	17,5 - 25	Corrosive, C, R34 Harmful, Xn, R21/22, R43	Skin Sens. 1, H317 Skin Corr. / Irrit. 1B, H314 Acute Tox. 4, H312 Acute Tox. 4, H302
phenol	CAS: 108-95-2 REACH-RNo 01-2119471329-32 EG-Nr.: 203-632-7 Index: -	3,5 - 4,9	Muta. Cat.3, R68 Toxic, T, R23/24/25 Corrosive, C, R34 Harmful, Xn, R48/20/21/22	Muta 2, H341 Acute Tox. 3, H311 Acute Tox. 3, H331 Acute Tox. 3, H301 STOT RE 2, H373 Skin Corr. / Irrit. 1B, H314

The full text of the hazard notes declared above can be found in Section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Seek medical advice.

Inhalation: Plenty of fresh air and consult a doctor as a precaution.

Skin contact: Wash off immediately with water and soap and rinse thoroughly. After continuous skin irritation, consult a doctor.

Eye contact: Flush eye with open eyelids under running water for several minutes. Seek medical advice immediately.

Ingestion: Rinse mouth and then drink plenty of water. Instantly call for medical help. Do not induce vomiting.

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

Induces corrosion.

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

No data available.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products: carbon monoxide, carbon dioxide and oxides of nitrogen.

5.3. Advice for firefighters

Wear personal protective clothing and self-contained breathing apparatus (SCBA). Contaminated extinguishing water must be disposed of in accordance with official regulations.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Wear suitable protective clothing, gloves and glasses during work. Avoid contact with eyes, skin and clothes. Provide adequate ventilation. Do not inhale vapours / aerosols.

6.2. Environmental precautions

Do not allow to enter drainage system or waters. Do not allow to enter the ground/soil.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

6.4. Reference to other sections

See section 8 for information given on personal protective equipment. Dispose contaminated material as waste according to section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Provide adequate ventilation. Do not inhale vapours / aerosols. Avoid contact with eyes and skin. Do not eat, drink and smoke while working. Wash hands before breaks.

7.2. Conditions for safe storage, including any incompatibilities

Prevent any penetration into the ground. Store in original containers in a cool and dry place.

7.3. Specific end use(s)

No further relevant information available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Workplace limit value (TRGS 900)

CAS-Nr.	Ingredient	Value / Unit	Peak limit
108-95-2	Phenol	TRGS 900 AGW 8 mg/m ³ , 2 ppm	2 (II)

EU OEL
Time Weighted Average
(TWA)
8 mg/m³ 2 ppm

EU OEL
Short Term Exposure Limit
(STEL)
16 mg/m³ 4 ppm

8.2. Exposure controls

Engineering measures:	Provide adequate ventilation, especially in closed rooms.
Hygiene measures:	Remove contaminated and saturated clothes immediately. Wash hands before breaks and after finishing work. Avoid contact with eyes and skin.
Respiratory protection:	Only us in well-ventilated areas. Respiratory protection necessary with vapours / aerosols.
Hand protection:	Gloves out of synthetic material (EN 374) Material of gloves: Butyl rubber (recommended minimum strength 0,7 mm) Nitrile rubber (recommended minimum strength 0,7 mm) Find out the exact break through time from the manufacturer of the protective gloves and comply with it.
Eye protection:	Sealed safety glasses (EN 166)
Body protection:	Protective clothing

Ingredient				
Type	Exposure	Value / Unit	Population	Effects
<u>Phenol</u>				
DNEL	Dermal	0,4 mg/kg bw/day	Consumer	Long term systemic effects
DNEL	Inhalation	8,0 mg/m ³	Worker	Long term systemic effects
DNEL	Inhalation	1,32 mg/m ³	Consumer	Long term systemic effects
DNEL	Oral	0,4 mg/kg bw/day	Consumer	Long term systemic effects

Ingredient		
Type	Compartment detail	Value / Unit
<u>Phenol</u>		
PNEC	Fresh water	0,007,7 mg/l
PNEC	Marine water	0,00077 mg/l
PNEC	Sewage treatment plant	2,1 mg/l
PNEC	Sediment (Fresh water)	0,0915 mg/kg dw
PNEC	Sediment (Marine water)	0,00915 mg/kg dw
PNEC	Soil	0,136 mg/kg dw

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	yellow – dark red
Odour:	not available
Odour threshold:	not available
Melting / Freezing point:	not available
Boiling point / boiling range:	> 200 °C DIN 53171
Flash point:	111 °C ISO 2719
Evaporation rate:	not available
Flammability (solid, gas):	not available
Lower explosion limit:	not available
Upper explosion limit:	not available
Vapour pressure:	0.28 hPa (bei 20 °C)

Vapour density:	not available
Density:	1,08 g/cm ³
Water solubility:	not available
Partition coefficient (n-octanol/water):	not available
Auto-ignition temperature:	not available
Decomposition temperature:	not available
Explosive properties:	not available
Oxidising properties:	not available

9.2. Other information

No data available.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

The product is stable.

10.3. Possibility of hazardous reactions

No dangerous reactions known.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

No specific data.

10.6. Hazardous decomposition products

None known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Ingredient	Endpoint / Value / Unit	Species	Method / Result
Acute effects			
<u>diethylenetriamine</u>			
Oral	LD50 1080 mg/kg	Rat	Corrosive effect on skin and mucous membrane. Danger of sensitising effect on skin. Strong corrosive effect. Causes severe eye damages. Corrosion of mucous membrane, cough, breathlessness. Sensitising effect possible at skin contact. No special effects or risks known. No special effects or risks known. No special effects or risks known. No classification in respect of aspiration toxicity. Not classified in respect of target organ toxicity (single exposure). Not classified in respect of target organ toxicity (repeated exposure).
Dermal	LD50 672 mg/kg	Rabbit	
Inhalation	LC50 / 4 h / 0,3 mg/l	Rat	
Primary irritant effects skin			
Primary irritant effects eyes			
Primary irritant effects inhalation			
Primary irritant effects sensitisation			
Germ Cell mutagenicity			
Carcinogenicity			
Reproduction toxicity			
Aspiration danger			
STOT Specific Target Organ Toxicity (Single)			
Specific target organ toxicity – repeated exposure (STOT-RE), oral			
<u>phenol</u>			
Oral	LD50 317 mg/kg	Rat	

Dermal	LD50 630 mg/kg	Rabbit	<p>Danger of cutaneous absorption. Corrosive effect on skin and mucous membrane. Corrosion, danger of blindness. Resorption. Corrosion of mucous membrane, cough, breathlessness. No sensitising effect known. Muta. 2; may presumably cause genetic defects. No data available. No data available. No classification in respect of aspiration toxicity. Not classified in respect of target organ toxicity (single exposure). Can harm central nervous system, kidneys, liver and the skin at longer or repeated exposure.</p>
Inhalative	LC50 / 4 h / 0,316 mg/l	Rat	
Primary irritant effects skin			
Primary irritant effects eyes			
Primary irritant effects inhalation			
Primary irritant effects sensitisation			
Germ Cell mutagenicity			
Carcinogenicity			
Reproduction toxicity			
Aspiration danger			
STOT Specific Target Organ Toxicity (Single)			
Specific target organ toxicity – repeated exposure (STOT-RE), oral			

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ingredient			
Toxicity / Effect	Endpoint/Time/Value/Unit	Species	Method
<u>phenol, polymer with diethylenetriamine and formaldehyde</u>			No data available
<u>diethylenetriamine</u>			
Toxicity, invertebrate water animals (acute)	LC50 / 48h / 16 mg/l	Daphnia	
Toxicity, invertebrate water animals (acute)	LC50 / 48h / 53,5 µg/l	Water flea	
Toxicity, hydrophyte (acute)	EC50 / 72h / 1,164 mg/l	Green alga	
Toxicity, hydrophyte (acute)	EC50 / 96h / 345,6 µg/l	Green alga, fresh water	
<u>phenol</u>			
Toxicity, Fish	LC50 / 96h / 5,0 mg/l	Onchorhynchus mykiss	
Toxicity, Daphnia	EC50 / 48h / 4,2 mg/l	Daphnia magna (big water flea)	
Toxicity, Algae	IC5 / 8d / 7,5 mg/l	Scenedesmus quadricauda	
Toxicity, Bacteria	EC5 / 16h / 64 mg/l	Pseudomonas putida	

12.2. Persistence and degradability

Ingredient	Persistence and degradability	
	Time/Value/Unit	Method
<u>diethylenetriamine</u>	0% / 14 Tage	No data available
<u>phenol</u>	85% / 14 days	Biologically easy degradable, OECD: 301C

12.3. Bioaccumulative potential

Ingredient	Bioaccumulative potential / Endpoint / Value
<u>diethylenetriamine</u>	Due to the partition coefficient n-octanol/water an accumulation in organism is not expected (log POW <= 4)
<u>phenol</u>	Due to the partition coefficient n-octanol/water an accumulation in organism is not expected (log POW <= 4)

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Other adverse effects

No harmful effects known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Carry out the disposal of products and its containers in a safe way. Follow regional local authority regulations.

Waste code (EG) 080409

The waste code is just a recommendation for the user.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

2735

14.2. UN proper shipping name

ADR / RID: Polyamines, liquid, corrosive, n.o.s. (amine addition compound / diethylenetriamine mixture)

IMDG / IATA: Polyamines, liquid, corrosive, n.o.s. (amine addition compound / diethylenetriamine mixture)

14.3. Transport hazard class(es)

ADR / RID / IMDG / IATA: 8 (Corrosive substances)

Additional information:

ADR / RID
Classification code C7
Hazard label 8
Danger Code 80
Transport category 3
Tunnel code E

IMDG
EmS F-A, S-B
Marine pollutant no

14.4. Packing group

III

14.5. Environmental hazards

ADR / RID / IMDG / IATA: no

14.6. Special precautions for user

None known

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable

SECTION 15: REGULATORY INFORMATION

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

Consider employment restriction for adolescents and employment medical provisions.

Water hazard class (Germany): 2 VwVwS

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16: OTHER INFORMATION

Method for the deduction of the classification according to Directive (EC) No. 1272/2008 (CLP):

Classification:	Statement:
Acute Tox., 4, H302	Calculation method
Skin Corr. / Irrit., 1B, H314	Calculation method
Skin Sens., 1, H317	Calculation method
Muta., 2, H341	Calculation method

Full text of classifications (CLP):

Acute Toxicity, 4	Acute Toxicity - Category 4
Skin Corrosion / Irritation, 1B	Irritant and corrosive effects to skin - Category 1B
Skin Sensitization, 1	Sensitization of skin - Category 1
Germ Cell Mutagenicity, 2	Germ Cell Mutagenicity - Category 2

Full text of shortened H-statements (CLP):

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H331	Toxic if inhaled.
H341	Suspected of causing genetic defects.
H373	May cause damage to organs through prolonged or repeated exposure.

Full text of shortened R-statements:

R21/22	Harmful in contact with skin and if swallowed.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R34	Causes burns.
R43	May cause sensitisation by skin contact.
R48/20/21/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R68	Possible risk of irreversible effects.

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.