



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### TIP TOP HARDENER No. 8

Revision date: 20.02.2017

Product code: 00359-1300

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#### Pictograms:



#### Hazard statements

H290	May be corrosive to metals.
H302+H332	Harmful if swallowed or if inhaled.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

#### Precautionary statements

P260	Do not breathe vapour.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P330	Rinse mouth.
P331	Do NOT induce vomiting.
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.
P310	Immediately call a POISON CENTER/doctor.
P273	Avoid release to the environment.

#### Special labelling of certain mixtures

EUH071	Corrosive to the respiratory tract.
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#### 2.3. Other hazards

Not known.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

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**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
57214-10-5	Formaldehyde polymer with 1,3-benzenedimethanamine and phenol			< 45 %
	500-137-0		01-2119966906-20	
	Skin Corr. 1C, Skin Sens. 1, Aquatic Chronic 3; H314 H317 H412			
100-51-6	Benzyl alcohol			< 40 %
	202-859-9	603-057-00-5	01-2119492630-38	
	Acute Tox. 4, Acute Tox. 4; H302 H332			
1477-55-0	Xylylenediamine			< 20 %
	216-032-5		01-2119480150-50	
	Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, Aquatic Chronic 3; H302 H332 H314 H317 H412 EUH071			
112-24-3	Triethylenetetramine			< 15 %
	203-950-6	612-059-00-5		
	Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, Aquatic Chronic 3; H302 H312 H314 H317 H412			
112-57-2	Tetraethylenepentamine			< 1 %
	203-986-2	612-060-00-0		
	Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, Aquatic Chronic 2; H312 H302 H314 H317 H411			
140-31-8	2-piperazin-1-ylethylamine			< 1 %
	205-411-0	612-105-00-4	01-2119471486-30	
	Acute Tox. 3, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, Aquatic Chronic 3; H311 H302 H314 H317 H412			
111-40-0	Diethylenetriamine			< 1 %
	203-865-4	612-058-00-X	01-2119473793-27	
	Acute Tox. 2, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1; H330 H302 H312 H314 H317			

Full text of H and EUH statements: see section 16.

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

- Remove contaminated soaked clothing immediately.
- Consult a physician.
- Take away from danger area and lay down affected person.

**After inhalation**

- Move to fresh air in case of accidental inhalation of vapours or decomposition products.
- In the event of symptoms refer for medical treatment.

**After contact with skin**

- In case of contact with skin wash off immediately with plenty of water.
- Consult a doctor if skin irritation persists.

**After contact with eyes**

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- Seek medical treatment by eye specialist.



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#### After ingestion

- Do not induce vomiting.
- Rinse out mouth and give plenty of water to drink.
- Never give anything by mouth to an unconscious person.
- Induce vomiting only upon the advice of a physician.
- Summon a doctor immediately.

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

- Harmful if swallowed or if inhaled.
- Causes severe skin burns and eye damage.
- May cause an allergic skin reaction.
- Corrosive to the respiratory tract.

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

- Treat symptoms.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### Suitable extinguishing media

- Alcohol-resistant foam, dry chemical, carbon dioxide (CO<sub>2</sub>), water-spray.

##### Unsuitable extinguishing media

- Full water jet.

#### 5.2. Special hazards arising from the substance or mixture

- Fire may produce:  
carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>)

#### 5.3. Advice for firefighters

- Wear self-contained breathing apparatus and protective suit.

#### Additional information

- Do not release chemically contaminated water into drains, soil or surface waters. Sufficient measures must be taken to retain water used for extinguishing.
- Cool containers at risk 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

- In case of vapour formation use respirator.
- Ensure adequate ventilation.
- Use personal protective clothing.

#### 6.2. Environmental precautions

- Do not discharge into the drains/surface waters/ground water.
- Do not discharge into the subsoil/soil.

#### 6.3. Methods and material for containment and cleaning up

- Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).
- Shovel into suitable container for disposal.
- Do not use metal containers.

#### 6.4. Reference to other sections

- Observe protective instructions (see Sections 7 and 8).
- Information for disposal see section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

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**Advice on safe handling**

Keep container tightly closed.  
Avoid contact with the skin and the eyes.  
Use only in thoroughly ventilated areas.

**Advice on protection against fire and explosion**

No special protective measures against fire required.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed in a dry, cool and well-ventilated place.  
Do not use metal containers.

**Advice on storage compatibility**

Incompatible with acids.

**Further information on storage conditions**

Keep away from food, drink and animal feeding stuffs.

**7.3. Specific end use(s)**

Hardener

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
111-40-0	2,2'-Iminodi(ethylamine)	1	4.3		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL

**Additional advice on limit values**

No data available.

**8.2. Exposure controls****Appropriate engineering controls**

Ensure adequate ventilation, especially in confined areas.

**Protective and hygiene measures**

Avoid contact with eyes and skin.  
Wash hands before breaks and immediately after handling the product.  
When using do not eat, drink or smoke.  
Remove and wash contaminated clothes before re-use.

**Eye/face protection**

Tightly fitting goggles (EN 166).  
Eye wash bottle with pure water (EN 15154).

**Hand protection**

Chemical protective gloves made of nitrile, nitrile/cotton, butyl or neoprene, with a minimum thickness of 0.7 mm, permeation time of approx. 480 minutes.

This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374 carried out under lab conditions.

Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

Pls. find examples in the protective gloves database under: <http://bestglove.com/site/chemrest/>

**Skin protection**

Long sleeved clothing (EN 368).

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**Respiratory protection**

In case of insufficient ventilation wear suitable respiratory equipment (gas filter type A) (EN 14387).

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

Physical state:	Liquid
Colour:	Yellowish
Odour:	Amine like

**Test method**

pH-Value: &gt; 11

**Changes in the physical state**

Initial boiling point and boiling range:	> 107 °C
Flash point:	> 112 °C
Lower explosion limits:	n.d.
Upper explosion limits:	
Ignition temperature:	n.d.
Vapour pressure:	n.d.
Density (at 21 °C):	1,08 g/cm <sup>3</sup>
Water solubility: (at 20 °C)	Slightly miscible
Viscosity / dynamic: (at 25 °C)	260 mPa·s

**9.2. Other information**

No data available.

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

No decomposition if stored and applied as directed.

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions**Reactions with strong acids.  
Gives off hydrogen by reaction with metals.**10.4. Conditions to avoid**

To avoid thermal decomposition, do not overheat.

**10.5. Incompatible materials**Acids.  
Hydrogen, by reaction with metals.**10.6. Hazardous decomposition products**Carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>).**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Acute toxicity**

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Harmful if swallowed or if inhaled.  
LD50/oral/rat: 1230 mg/kg

**Irritation and corrosivity**

Causes severe skin burns and eye damage.

**Sensitising effects**

May cause an allergic skin reaction.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Additional information on tests**

Classification in compliance with the assessment procedure specified in the Regulation (EC) no 1272/2008.

**Practical experience****Other observations**

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

**SECTION 12: Ecological information****12.1. Toxicity**

Ecological data are not available.  
Harmful to aquatic life with long lasting effects.

**12.2. Persistence and degradability**

No data available.

**12.3. Bioaccumulative potential**

No data available.

**12.4. Mobility in soil**

No data available.

**12.5. Results of PBT and vPvB assessment**

According to Regulation (EC) No 1907/2006 (REACH) none of the substances, contained in this product are a PBT / vPvB substance.

**12.6. Other adverse effects**

Hazardous water pollutant.

**Further information**

Do not flush into surface water or sanitary sewer system.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Advice on disposal**

Where possible recycling is preferred to disposal.  
Can be incinerated, when in compliance with local regulations.

**Waste disposal number of waste from residues/unused products**

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080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances  
Classified as hazardous waste.

#### Contaminated packaging


Empty containers should be taken for local recycling, recovery or waste disposal.

Contaminated packagings are to be treated like the product itself.

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.


### SECTION 14: Transport information

#### Land transport (ADR/RID)

**14.1. UN number:** UN 2735  
**14.2. UN proper shipping name:** AMINES, LIQUID, CORROSIVE, N.O.S. (Formaldehyde polymer with 1,3-benzenedimethanamine and phenol)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
Hazard label: 8  


Classification code: C7  
Limited quantity: 1 L / 30 kg  
Excepted quantity: E2  
Transport category: 2  
Hazard No: 80  
Tunnel restriction code: E

#### Inland waterways transport (ADN)

**14.1. UN number:** UN 2735  
**14.2. UN proper shipping name:** AMINES, LIQUID, CORROSIVE, N.O.S. (Formaldehyde polymer with 1,3-benzenedimethanamine and phenol)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
Hazard label: 8  


Classification code: C7  
Limited quantity: 1 L / 30 kg  
Excepted quantity: E2

#### Marine transport (IMDG)

**14.1. UN number:** UN 2735  
**14.2. UN proper shipping name:** AMINES, LIQUID, CORROSIVE, N.O.S. (Formaldehyde polymer with 1,3-benzenedimethanamine and phenol)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
Hazard label: 8



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Marine pollutant: No  
Limited quantity: 1 L / 30 kg  
Excepted quantity: E2  
EmS: F-A, S-B

#### Air transport (ICAO-TI/IATA-DGR)

**14.1. UN number:** UN 2735  
**14.2. UN proper shipping name:** AMINES, LIQUID, CORROSIVE, N.O.S. (Formaldehyde polymer with 1,3-benzenedimethanamine and phenol)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
Hazard label: 8



Limited quantity Passenger: 0.5 L  
Passenger LQ: Y840  
Excepted quantity: E2  
IATA-packing instructions - Passenger: 851  
IATA-max. quantity - Passenger: 1 L  
IATA-packing instructions - Cargo: 855  
IATA-max. quantity - Cargo: 30 L

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

#### 14.6. Special precautions for user

Handle in accordance with good industrial hygiene and safety practice.

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

The transport takes place only in approved and appropriate packaging.

### SECTION 15: Regulatory information

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

##### EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3: Tetraethylenepentamine

2004/42/EC (VOC): 0 %

##### National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water contaminating class (D): 2 - water contaminating

#### 15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

### SECTION 16: Other information

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**Abbreviations and acronyms**

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route  
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses  
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure  
IMDG = International Maritime Code for Dangerous Goods  
IATA/ICAO = International Air Transport Association / International Civil Aviation Organization  
MARPOL = International Convention for the Prevention of Pollution from Ships  
IBC-Code = International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
REACH = Registration, Evaluation, Authorization and Restriction of Chemicals  
CAS = Chemical Abstract Service  
EN = European norm  
ISO = International Organization for Standardization  
DIN = Deutsche Industrie Norm  
PBT = Persistent Bioaccumulative and Toxic  
vPvB = Very Persistent and very Bio-accumulative  
LD = Lethal dose  
LC = Lethal concentration  
EC = Effect concentration  
IC = Median immobilisation concentration or median inhibitory concentration

**Relevant H and EUH statements (number and full text)**

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H302+H332	Harmful if swallowed or if inhaled.
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.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH071	Corrosive to the respiratory tract.

**Further Information**

Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.

The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge.

The delivery specifications are contained in the corresponding product sheet.

This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.

(n.a. = not applicable; n.d. = not determined)

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*