





# Safety Data Sheet

according to Regulation (EC) No 1907/2006



## ESKANOL EF-450H

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Product code: 00359-1296

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- 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.

### 2.3. Other hazards

Vapours may form explosive mixture with air.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### Chemical characterization

Hardener based on aliphatic polyamines

#### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
100-51-6	Benzyl alcohol			10 - 25 %
	202-859-9	603-057-00-5	01-2119492630-38	
	Acute Tox. 4, Acute Tox. 4; H302 H332			
90-72-2	2,4,6-tris(dimethylaminomethyl)phenol			2,5 - < 10 %
	202-013-9	603-069-00-0	01-2119560597-27	
	Acute Tox. 4, Skin Corr. 1C, Eye Dam. 1, Skin Sens. 1B; H302 H314 H318 H317			
109-55-7	N,N-dimethyl-1,3-diaminopropane			5 - < 10 %
	203-680-9	612-061-00-6	01-2119486842-27	
	Flam. Liq. 3, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1; H226 H302 H314 H317			
112-24-3	Triethylenetetramine			< 2,5 %
	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			

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.  
In the event of persistent symptoms receive medical treatment.

#### 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

Wash off immediately with soap and 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 mouth.
- Never give anything by mouth to an unconscious person.
- Summon a doctor immediately.
- Induce vomiting only upon the advice of a physician.

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

- Causes severe skin burns and eye damage.
- May cause an allergic skin reaction.

**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**

- Vapours are heavier than air and spread along ground.
- The vapour/air mixture is explosive, even in empty, uncleaned receptacles.
- 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.
- Clean contaminated surface thoroughly.

**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.
- Use only in thoroughly ventilated areas.
- Avoid contact with skin, eyes and clothing.

### 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.
- Pay attention to anti-explosion rules.
- Protect against direct sun radiation.

#### Advice on storage compatibility

- Incompatible with:  
Oxidizing agents, Acids and bases.

#### 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

#### 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

- Do not inhale vapours.
- Wash hands before breaks and immediately after handling the product.
- When using do not eat, drink or smoke.
- Avoid contact with skin, eyes and clothing.
- 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

- Protective gloves resistant to chemicals made off butyl, minimum coat thickness 0.7 mm, permeation resistance approx. 480 minutes, i.e. protective glove <Butoject 898> made by www.kcl.de.
- Splash protection: Protective gloves resistant to chemicals made off nitrile, Minimum coat thickness 0.4 mm, Permeation resistance (wear duration) > 10 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.

#### Skin protection

- Long sleeved clothing (EN 368).

#### Respiratory protection

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



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**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

Physical state: Liquid  
Colour: Brown - Light brown  
Odour: Amine like

**Test method**

pH-Value (at 20 °C): n.d.

**Changes in the physical state**

Initial boiling point and boiling range: 134 °C (Calculated)  
Flash point: > 100 °C  
Lower explosion limits: 1,2 vol. %  
Upper explosion limits: 13 vol. %  
Ignition temperature: 215 °C  
Vapour pressure: 1,33 hPa  
(at 20 °C)  
Density (at 23 °C): 1,001 g/cm<sup>3</sup> ISO 2811-2  
Water solubility: Immiscible  
(at 20 °C)  
Viscosity / dynamic: 1000 - 1500 mPa·s ISO 2884-2  
(at 25 °C)

**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 acids, alkalies and oxidizing agents

**10.4. Conditions to avoid**

To avoid thermal decomposition, do not overheat.  
Protect against direct sun radiation.

**10.5. Incompatible materials**

Oxidizing agents, Acids and bases.

**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**

Based on available data, the classification criteria are not met.  
No toxicological data available.



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### **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.

## SECTION 12: Ecological information

### **12.1. Toxicity**

Ecological data are not available.

### **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**

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

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

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**

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

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**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.  
(N,N-dimethyl-1,3-diaminopropane,  
2,4,6-tris(dimethylaminomethyl)phenol)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
Hazard label: 8  
  
Classification code: C7  
Limited quantity: 5 L / 30 kg  
Excepted quantity: E1  
Transport category: 3  
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.  
(N,N-dimethyl-1,3-diaminopropane,  
2,4,6-tris(dimethylaminomethyl)phenol)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
Hazard label: 8  
  
Classification code: C7  
Limited quantity: 5 L / 30 kg  
Excepted quantity: E1

**Marine transport (IMDG)**

**14.1. UN number:** UN 2735  
**14.2. UN proper shipping name:** AMINES, LIQUID, CORROSIVE, N.O.S.  
(N,N-dimethyl-1,3-diaminopropane,  
2,4,6-tris(dimethylaminomethyl)phenol)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
Hazard label: 8  
  
Marine pollutant: No  
Limited quantity: 5 L / 30 kg  
Excepted quantity: E1



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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.  
(N,N-dimethyl-1,3-diaminopropane,  
2,4,6,-tris(dimethylaminomethyl)phenol)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
Hazard label: 8



Limited quantity Passenger: 1 L  
Passenger LQ: Y841  
Excepted quantity: E1  
IATA-packing instructions - Passenger: 852  
IATA-max. quantity - Passenger: 5 L  
IATA-packing instructions - Cargo: 856  
IATA-max. quantity - Cargo: 60 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**

2004/42/EC (VOC): 23,9 %

**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)

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H412	Harmful to aquatic life with long lasting effects.

### 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)

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