

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ESKANOL EF HARDENER 49 S

Revision date: 26.04.2022

Product code: 00359-1321

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

ESKANOL EF HARDENER 49 S

Art.-No.

10021, 10022

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

Use of the substance/mixture

Hardener

1.3. Details of the supplier of the safety data sheet

Company name: TIP TOP Oberflächenschutz Elbe GmbH

Street: Heuweg 4

Place: D-06886 Wittenberg

Telephone: +49(0)3491/635-50

Telefax: +49(0)3491/635-552

Responsible Department: Responsible for the safety data sheet: sds@gbk-ingelheim.de

1.4. Emergency telephone number:

INTERNATIONAL: +49 - (0) 6132 - 84463, GBK GmbH (24h - 7d/w - 365d/a)
Public Poisons Information Line: +353 (0) 1 809 2166 (8am-10pm 7 days a week)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute Tox. 4; H302

Acute Tox. 4; H332

Skin Corr. 1B; H314

Eye Dam. 1; H318

Skin Sens. 1; H317

Repr. 2; H361d

Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

Benzyl alcohol

3-Aminomethyl-3,5,5-trimethylcyclohexylamine

Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-, reaction products with bisphenol A diglycidyl ether homopolymer

Salicylic acid

Phenol, styrenated

Xylylenediamine

Signal word:

Danger

Pictograms:



Hazard statements

H302+H332

Harmful if swallowed or if inhaled.

H314

Causes severe skin burns and eye damage.



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H317	May cause an allergic skin reaction.
H361d	Suspected of damaging the unborn child.
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.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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

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

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Hardener based on aliphatic polyamines

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
100-51-6	Benzyl alcohol			< 40 %
	202-859-9	603-057-00-5	01-2119492630-38	
	Acute Tox. 4, Acute Tox. 4, Eye Irrit. 2; H332 H302 H319			
2855-13-2	3-Aminomethyl-3,5,5-trimethylcyclohexylamine			< 30 %
	220-666-8		01-2119514687-32	
	Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1, Skin Sens. 1A; H302 H314 H318 H317			
68609-08-5	Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-, reaction products with bisphenol A diglycidyl ether homopolymer			< 20 %
	614-657-1			
	Skin Corr. 1B, Eye Dam. 1; H314 H318			
1477-55-0	Xylylenediamine			< 10 %
	216-032-5		01-2119480150-50	
	Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1, Skin Sens. 1, Aquatic Chronic 3; H332 H302 H314 H318 H317 H412 EUH071			
69-72-7	Salicylic acid			< 10 %
	200-712-3	607-732-00-5	01-2119486984-17	
	Repr. 2, Acute Tox. 4, Eye Dam. 1; H361d H302 H318			
61788-44-1	Phenol, styrenated			< 10 %
	262-975-0		01-2119980970-27	
	Skin Irrit. 2, Skin Sens. 1A, Aquatic Chronic 2; H315 H317 H411			

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
100-51-6	202-859-9	Benzyl alcohol	< 40 %
		inhalation: ATE = 11 mg/l (vapours); oral: LD50 = 1570 mg/kg	
2855-13-2	220-666-8	3-Aminomethyl-3,5,5-trimethylcyclohexylamine	< 30 %
		oral: LD50 = 1030 mg/kg Skin Sens. 1A; H317: >= 0,001 - 100	
1477-55-0	216-032-5	Xylylenediamine	< 10 %
		inhalation: LC50 = 2,4 mg/l (vapours); dermal: LD50 = ~ 2000 mg/kg; oral: LD50 = 930 mg/kg	
69-72-7	200-712-3	Salicylic acid	< 10 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = 891 mg/kg	

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.



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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.

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

Harmful if swallowed or if inhaled.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Suspected of damaging the unborn child.

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 (CO₂), water-spray.
Fire-extinguishing activities according to surrounding.

Unsuitable extinguishing media

Full water jet.

5.2. Special hazards arising from the substance or mixture

Fire may produce:
Carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x).

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

General advice

Ensure adequate ventilation.
Remove persons to safety.
Keep away sources of ignition.

For non-emergency personnel

Avoid contact with skin, eyes and clothing.
Do not breathe vapours.

For emergency responders

In case of vapour formation use respirator.
Use personal protective clothing.

6.2. Environmental precautions

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



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Do not discharge into the subsoil/soil.

6.3. Methods and material for containment and cleaning up

For containment

Prevent spread over a wide area (e.g. by containment or oil barriers).

For 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).

Informations for disposal look up chapter 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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.

Recommended storage temperature: 10°C - 30°C

Hints on joint storage

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

Occupational exposure limits

CAS No	Substance	ppm	mg/m ³	fib/cm ³	Category	Origin
1477-55-0	m-Xylene alpha,alpha'-diamine (m-phenylenebis(methylamine))	-	0.1		TWA (8 h)	

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.

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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 viton, Minimum coat thickness 0,7 mm, Permeation resistance (wear duration) approx. 30 minutes, i.e. protective glove <Vitoject 890> 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 (DIN EN ISO 6530)

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:	Transparent
Odour:	Amine like

Test method

pH-Value (at 20 °C): n. d.

Changes in the physical state

Melting point/freezing point: n. d.

Boiling point or initial boiling point and boiling range: n. d.

Sublimation point: n.a.

Softening point: n. d.

Flash point: 94 °C (Calculated)

Flammability

Solid/liquid: n.a.

Gas: n.a.

Explosive properties

The product is not explosive.

Lower explosion limits: n. d.

Upper explosion limits: n. d.

Auto-ignition temperature: n. d.

Self-ignition temperature

Solid: n.a.

Gas: n.a.

Decomposition temperature: n. d.

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Oxidizing properties

Not oxidising.

Vapour pressure:

n. d.

Density (at 23 °C):

approx. 1,05 g/cm³ ISO 2811-2

Bulk density:

n.a.

Water solubility:
(at 20 °C)

Immiscible

Solubility in other solvents

n. d.

Partition coefficient n-octanol/water:

n. d.

Viscosity / dynamic:
(at 25 °C)

250 - 400 mPa·s ISO 2884-1

Viscosity / kinematic:

n. d.

Flow time:
(at 23 °C)

n. d.

Relative vapour density:

n. d.

Evaporation rate:

n. d.

Solvent separation test:

n. d.

Solvent content:

0 %

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 oxidising agents.

10.4. Conditions to avoidTo 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

No known hazardous decomposition products.

Fire may produce:

Carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x)**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity**

Harmful if swallowed.

Harmful if inhaled.

No toxicological data available.

ATEmix/oral: = ~ 1500 mg/kg

ATEmix/inhalation: > = ~ 3,3 mg/l/4 h [dust, mist]

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ATEmix calculated

ATE (oral) 1343,6 mg/kg; ATE (inhalation dust/mist) 3,080 mg/l

Irritation and corrosivity

Causes severe skin burns and eye damage.

Causes serious eye damage.

Sensitising effects

May cause an allergic skin reaction. (3-Aminomethyl-3,5,5-trimethylcyclohexylamine ; Xylylenediamine; Phenol styrenated)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of damaging the unborn child. (Salicylic acid)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: 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.

11.2. Information on other hazards**Endocrine disrupting properties**

No data available

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

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

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

No data available

12.7. Other adverse effects

Hazard to waters.

Further information

Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Can be incinerated, when in compliance with local regulations.

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List of Wastes Code - residues/unused products

- 080411 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); adhesive and sealant sludges containing organic solvents or other hazardous substances; hazardous waste

List of Wastes Code - used product

- 080111 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU and removal of paint and varnish; waste paint and varnish containing organic solvents or other hazardous substances; hazardous waste

List of Wastes Code - contaminated packaging

- 150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; 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.

SECTION 14: Transport information

Land transport (ADR/RID)

- 14.1. UN number:** UN 2735
14.2. UN proper shipping name: POLYAMINES, LIQUID, CORROSIVE, N.O.S.
(3-Aminomethyl-3,5,5-trimethylcyclohexylamine)
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Hazard label: 8



- Classification code: C7
Special Provisions: 274
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: POLYAMINES, LIQUID, CORROSIVE, N.O.S.
(3-Aminomethyl-3,5,5-trimethylcyclohexylamine)
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Hazard label: 8

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Classification code: C7
Special Provisions: 274
Limited quantity: 1 L / 30 kg
Excepted quantity: E2

Marine transport (IMDG)

14.1. UN number: UN 2735
14.2. UN proper shipping name: POLYAMINES, LIQUID, CORROSIVE, N.O.S.
(3-Aminomethyl-3,5,5-trimethylcyclohexylamine)
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Hazard label: 8



Special Provisions: 274
Limited quantity: 1 L
Excepted quantity: E2
EmS: F-A, S-B
Segregation group: 18 - alkalis

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 2735
14.2. UN proper shipping name: POLYAMINES, LIQUID, CORROSIVE, N.O.S.
(3-Aminomethyl-3,5,5-trimethylcyclohexylamine)
14.3. Transport hazard class(es): 8
14.4. Packing group: II
Hazard label: 8



Special Provisions: A3 A803
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. Maritime transport in bulk according to IMO instruments

The transport takes place only in approved and appropriate packaging.

SECTION 15: Regulatory information



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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, Entry 75

2004/42/EC (VOC): < 40 %

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles 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 hazard class (D):

2 - obviously hazardous to water

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,9,11,12,13.

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

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Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Acute Tox. 4; H302	Calculation method
Acute Tox. 4; H332	Calculation method
Skin Corr. 1B; H314	Calculation method
Eye Dam. 1; H318	Calculation method
Skin Sens. 1; H317	Calculation method
Repr. 2; H361d	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H302+H332	Harmful if swallowed or if inhaled.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H361d	Suspected of damaging the unborn child.
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.)