

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 02.03.2021

Version number 35

Revision: 02.03.2021

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

1.1 Product identifier

Trade name: **Polyester Spray Filler**

Article number: 20701, 20714

UFI: 620M-U359-E00M-25DX

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

No further relevant information available.

Application of the substance / the mixture

Filler and surfacer
Knife filler/ Surfacers
Polyester resin

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: AKEMI chemisch technische Spezialfabrik GmbH
Lechstrasse 28
D 90451 Nürnberg

Tel. +49(0)911-642960
Fax. +49(0)911-644456
e-mail info@akemi.de

Further information obtainable from:

see manufacturer / supplier

1.4 Emergency telephone number:

Product Safety Department AKEMI chemisch technische Spezialfabrik GmbH
Tel. +49(0)911-64296-59
Reachable during the following office hours:
Monday – Thursday from 07:30 a.m. to 16:30 p.m.
Friday from 07:30 a.m. to 13:30 p.m.
+44 (171) 635 91 91
National Poison Inform. Centre
Medical Toxicology Unit
Avalonley Road
London SE14 5ER

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flam. Liq. 2	H225	Highly flammable liquid and vapour.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2	H319	Causes serious eye irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction.
Repr. 2	H361d	Suspected of damaging the unborn child.
STOT RE 2	H373	May cause damage to the hearing organs through prolonged or repeated exposure.
Aquatic Chronic 3	H412	Harmful to aquatic life with long lasting effects.

Response: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

Storage: Store in a well-ventilated place. Keep cool.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

The product is classified and labelled according to the CLP regulation.



GHS02 GHS07 GHS08

Signal word

Danger

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· Hazard-determining components of labelling:

styrene
titanium dioxide
maleic anhydride
cobalt(II) 2-ethylhexanoate

· Hazard statements

H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H361d Suspected of damaging the unborn child.
H373 May cause damage to the hearing organs through prolonged or repeated exposure.

· Precautionary statements

H412 Harmful to aquatic life with long lasting effects.
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe vapours.
P273 Avoid release to the environment.
P280 Wear protective gloves / eye protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 Get medical advice/attention if you feel unwell.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**

During processing and product hardening the network generator is released as fume. Consequently, take care for adequate air conditioning and for fume exhaustion on request.

· Results of PBT and vPvB assessment

· PBT: Not applicable.
· vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**

· Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 100-42-5 EINECS: 202-851-5 Index number: 601-026-00-0 Reg.nr.: 01-2119457861-32	styrene Flam. Liq. 3, H226 Repr. 2, H361d; STOT RE 1, H372; Asp. Tox. 1, H304 Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 Aquatic Chronic 3, H412	<10%
CAS: 141-78-6 EINECS: 205-500-4 Index number: 607-022-00-5 Reg.nr.: 01-2119475103-46	ethyl acetate Flam. Liq. 2, H225 Eye Irrit. 2, H319; STOT SE 3, H336	<10%
CAS: 25013-15-4 EINECS: 246-562-2 Reg.nr.: 01-2119622074-50-0000	vinyltoluene Flam. Liq. 3, H226 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	<10%

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CAS: 13463-67-7 EINECS: 236-675-5 Index number: 022-006-00-2 Reg.nr.: 01-2119489379-17-xxxx	titanium dioxide Carc. 2, H351	1-5%
CAS: 7779-90-0 EINECS: 231-944-3 Index number: 030-011-00-6 Reg.nr.: 01-2119485044-40-0000	trizinc bis(orthophosphate) Aquatic Acute 1, H400; Aquatic Chronic 1, H410	1-5%
CAS: 136-52-7 EINECS: 205-250-6 Reg.nr.: 01-2119524678-29-xxxx	cobalt(II) 2-ethylhexanoate Repr. 1A, H360F Aquatic Acute 1, H400 Eye Irrit. 2, H319; Skin Sens. 1A, H317 Aquatic Chronic 3, H412	<1%
CAS: 108-31-6 EINECS: 203-571-6 Index number: 607-096-00-9 Reg.nr.: 01-2119472428-31	maleic anhydride Resp. Sens. 1, H334; STOT RE 1, H372 Skin Corr. 1B, H314; Eye Dam. 1, H318 Acute Tox. 4, H302; Skin Sens. 1A, H317	<1%

· Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures**4.1 Description of first aid measures**

- General information: Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Immediately remove any clothing soiled by the product.
Take affected persons out into the fresh air.
Position and transport stably in side position.
- After inhalation: Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing: Do not induce vomiting; call for medical help immediately.
Drink plenty of water and provide fresh air. Call for a doctor immediately.
- Information for doctor: With reference to section 2 the formulation contains styrene in the indicated mass concentration range. Styrene fumes will preferably be incorporated by inhalation via respiratory tract, skin resorption is currently considered as an inferior way of incorporation. In case of inhalation styrene is absorbed in a 60-90% range. Distribution in organism occurs rapidly, the maximum blood concentration can be analyzed after one hour after incorporation. Styrene exposition affects skin, mucous membranes, and central nervous system (CNS).
Acute damages / risks to health:
In case of styrene poisoning mainly damages to and interactions with central nervous system (CNS) arise. In concentration ranges above 200 ml/m³ symptoms such as fatigue, nausea, imbalance and prolonged response times are observed.
Chronical health risks:
Effects at central and peripheral nervous system and respiratory tract are evident in literature.
Main health risks are:
 - prolonged response times
 - reduced cognitive performance, partial amnesia
 - retardation of nervous impulse transition speed
 - disturbances of pulmonary function

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Symptoms in intoxication with (aromatic) hydrocarbons (dosis letalis about 30 g)

a) In acute intoxication: headache, dizziness, euphoria, gastro-intestinal dysfunction, state of excitement, coma.

b) In chronic intoxication: myelotoxic damage, fatigue, dizziness, emaciation, cardiac palpitation after physical exercise, leucopenia, anemia, leukosis.

Therapy in hydrocarbons intoxication: In case of inhalation provision of fresh air; in case of peroral intake administration of Carbo medicinalis; only after intubation conduct of gastrolavage in application of Carbo medicinalis; in case of cramps administration of Diazepam 20 mg intravenously.

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

Headache
Breathing difficulty
Profuse sweating
Nausea
Dizziness
Dizziness

· **Hazards**

Danger of impaired breathing.

Skin contact with polyester and epoxy resin solutions as ingredient of the product should be avoided due to risks of skin irritations or allergic skin appearances. If occasional hand contact can not be avoided, protection gloves, proper protection ointments and protective agents generating a protective layer on the skin were applied.

· **4.3 Indication of any immediate medical attention and special treatment needed**

If swallowed, gastric irrigation with added, activated carbon.

If swallowed or in case of vomiting, danger of entering the lungs.

* **SECTION 5: Firefighting measures**

· **5.1 Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, sand, extinguishing powder. Do not use water.

· **For safety reasons unsuitable extinguishing agents:**

Water
Water with full jet

· **5.2 Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Carbon monoxide (CO)

Under certain fire conditions, traces of other toxic gases cannot be excluded.

· **5.3 Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
Wear fully protective suit.

· **Additional information**

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

* **SECTION 6: Accidental release measures**

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources.

Use respiratory protective device against the effects of fumes/dust/aerosol.

· **6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.

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· **6.3 Methods and material for containment and cleaning up:**

Prevent seepage into sewage system, workpits and cellars.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.

· **6.4 Reference to other sections**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
Dispose of the material collected according to regulations.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

* **SECTION 7: Handling and storage**

· **7.1 Precautions for safe handling**

Keep away from heat and direct sunlight.
Ensure good ventilation/exhaustion at the workplace.
Keep receptacles tightly sealed.
Store in cool, dry place in tightly closed receptacles.
Prevent formation of aerosols.
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
Use only in well ventilated areas.

· **Information about fire - and explosion protection:**

Fumes can combine with air to form an explosive mixture.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Protect from heat.
Prevent impact and friction.
Wear shoes with conductive soles.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Store in a cool location.
Store only in the original receptacle.
Prevent any seepage into the ground.

· **Information about storage in one common storage facility:**

Do not store together with acids.
Do not store together with alkalis (caustic solutions).
Store away from oxidising agents.
Store away from foodstuffs.

· **Further information about storage conditions:**

Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
Store receptacle in a well ventilated area.

· **Storage class:**

3

· **7.3 Specific end use(s)**

No further relevant information available.

* **SECTION 8: Exposure controls/personal protection**

· **8.1 Control parameters**

· **Additional information about design of technical facilities:**

No further data; see item 7.

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· Ingredients with limit values that require monitoring at the workplace:**100-42-5 styrene**

WEL	Short-term value: 1080 mg/m ³ , 250 ppm
	Long-term value: 430 mg/m ³ , 100 ppm

141-78-6 ethyl acetate

WEL	Short-term value: 1468 mg/m ³ , 400 ppm
	Long-term value: 734 mg/m ³ , 200 ppm

136-52-7 cobalt(II) 2-ethylhexanoate

WEL	Long-term value: 0.1 mg/m ³ as Co; Carc, Sen
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108-31-6 maleic anhydride

WEL	Short-term value: 3 mg/m ³
	Long-term value: 1 mg/m ³ Sen

· DNELs**100-42-5 styrene**

Oral	DNEL (Langzeit-wiederholt)	2.1 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	406 mg/kg bw/day (ARB)
		343 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	289-306 mg/m ³ Air (ARB)
		174.25-182.75 mg/m ³ Air (BEV)
	DNEL (Langzeit-wiederholt)	85 mg/m ³ Air (ARB)
		10.2 mg/m ³ Air (BEV)

141-78-6 ethyl acetate

Oral	DNEL (Langzeit-wiederholt)	4.5 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	63 mg/kg bw/day (ARB)
		37 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	1,468 mg/m ³ Air (ARB)
		734 mg/m ³ Air (BEV)
	DNEL (Langzeit-wiederholt)	734 mg/m ³ Air (ARB)
		367 mg/m ³ Air (BEV)

25013-15-4 vinyltoluene

Oral	DNEL (Langzeit-wiederholt)	0.0833 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	5.83 mg/m ³ Air (ARB)
		1.04 mg/m ³ Air (BEV)

13463-67-7 titanium dioxide

Oral	DNEL (Langzeit-wiederholt)	700 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	10 mg/m ³ Air (ARB)

7779-90-0 trizinc bis(orthophosphate)

Oral	DNEL (Langzeit-wiederholt)	0.83 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	83 mg/kg bw/day (ARB)
		83 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	5 mg/m ³ Air (ARB)
		2.5 mg/m ³ Air (BEV)

136-52-7 cobalt(II) 2-ethylhexanoate

Oral	DNEL (Langzeit-wiederholt)	0.0558 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	0.235 mg/m ³ Air (ARB)

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		0.037 mg/m³ Air (BEV)
108-31-6 maleic anhydride		
Oral	DNEL (Langzeit-wiederholt)	0.06 mg/kg bw/day (BEV)
Dermal	DNEL (Kurzzeit-akut)	0.04 mg/kg bw/day (ARB)
	DNEL (Langzeit-wiederholt)	0.2 mg/kg bw/day (ARB)
		0.1 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	0.95 mg/m³ Air (ARB)
	DNEL (Langzeit-wiederholt)	0.19-0.4 mg/m³ Air (ARB)
		0.08 mg/m³ Air (BEV)

· PNECs

100-42-5 styrene

PNEC (wässrig)	5 mg/l (KA)
	0.014 mg/l (MW)
	0.028 mg/l (SW)
	0.04 mg/l (WAS)
PNEC (fest)	0.2 mg/kg Trockengew (BO)
	0.307 mg/kg Trockengew (MWS)
	0.614 mg/kg Trockengew (SWS)

141-78-6 ethyl acetate

PNEC (wässrig)	650 mg/l (KA)
	0.024 mg/l (MW)
	0.26 mg/l (SW)
	1.65 mg/l (WAS)
PNEC (fest)	0.24 mg/kg Trockengew (BO)
	0.125 mg/kg Trockengew (MWS)
	1.25 mg/kg Trockengew (SWS)

25013-15-4 vinyltoluene

PNEC (wässrig)	17 mg/l (KA)
	0.002 mg/l (MW)
	0.0498 mg/l (SW)
PNEC (fest)	0.0471 mg/kg Trockengew (BO)
	0.025 mg/kg Trockengew (MWS)
	1.245 mg/kg Trockengew (SWS)

13463-67-7 titanium dioxide

PNEC (wässrig)	100 mg/l (KA)
	1 mg/l (MW)
	0.127 mg/l (SW)
PNEC (fest)	100 mg/kg Trockengew (BO)
	100 mg/kg Trockengew (MWS)
	1,000 mg/kg Trockengew (SWS)

136-52-7 cobalt(II) 2-ethylhexanoate

PNEC (wässrig)	0.37 mg/l (KA)
	0.00236 mg/l (MW)
	0.00051 mg/l (SW)
PNEC (fest)	10.9 mg/kg Trockengew (BO)
	9.5 mg/kg Trockengew (MWS)

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	9.5-11.2 mg/kg Trockengew (SWS)
108-31-6 maleic anhydride	
PNEC (wässrig)	44.6 mg/l (KA) 0.00446 mg/l (MW) 0.0446 mg/l (SW) 0.4281 mg/l (WAS)
PNEC (fest)	0.0415 mg/kg Trockengew (BO) 0.0334 mg/kg Trockengew (MWS) 0.334 mg/kg Trockengew (SWS)

· Additional information: The lists valid during the making were used as basis.

· 8.2 Exposure controls

· Personal protective equipment:
· General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

Use skin protection cream for skin protection.

Be sure to clean skin thoroughly after work and before breaks.

· Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Short term filter device:

Filter A/P2

· Protection of hands:

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

ARRETIL (<http://www.stoko.com>)

STOKO EMULSION (<http://www.stoko.com>)

Kresto Classic (<http://debstoko.com>)

STOKO VITAN (<http://www.stoko.com>)

· Material of gloves

Fluorocarbon rubber (Viton)

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Value for the permeation: Level $\leq$ 6, 480 min

· For the permanent contact gloves made of the following materials are suitable:

Fluorocarbon rubber (Viton)

Vitoject (KCL, Art_No. 890)

· As protection from splashes gloves made of the following materials are suitable:

Butyl rubber, BR

Butoject (KCL, Art_No. 897, 898)

Nitrile rubber, NBR

Camatril (KCL, 730, 731, 732, 733)

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· Not suitable are gloves made of the following materials:

Chloroprene rubber, CR
Leather gloves
Strong material gloves

· Eye protection:



Tightly sealed goggles

· Body protection:

Solvent resistant protective clothing

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Viscous
Colour:	Various colours
Odour:	Characteristic

· pH-value: Not applicable

· Change in condition

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	76-78 °C

· Flash point: -4 °C

· Ignition temperature: 460 °C

· Auto-ignition temperature: Product is not selfigniting.

· Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

Lower:	1.2 Vol %
Upper:	8.9 Vol %

· Vapour pressure at 20 °C: 6 hPa

· Density at 20 °C: 1.63 g/cm³

· Solubility in / Miscibility with water:

Not miscible or difficult to mix.

· Viscosity:

Dynamic at 20 °C:	3,500 mPas
Kinematic:	Not determined.

· Solvent content:

Organic solvents:	26.6 %
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Solids content:	51.7 %
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· 9.2 Other information No further relevant information available.

SECTION 10: Stability and reactivity

· 10.1 Reactivity

No further relevant information available.

· 10.2 Chemical stability

· Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.
No decomposition if used and stored according to specifications.

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· **10.3 Possibility of hazardous reactions**

Exothermic polymerisation.
 Reacts with peroxides and other radical forming substances.
 Reacts with alkali (lyes).
 Reacts with acids.
 Reacts with strong oxidising agents.

· **10.4 Conditions to avoid**

No further relevant information available.

· **10.5 Incompatible materials:**

No further relevant information available.

· **10.6 Hazardous decomposition products:**

Carbon monoxide and carbon dioxide
 Organic phosphorus compounds
 Possible in traces.

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**

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

· LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Inhalative	LC50/4 h	>56.1 mg/l
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100-42-5 styrene

Oral	LD50	>2,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat) (OECD-Prüfrichtlinie 402)
Inhalative	LC50/4h	9.5 mg/m ³ (mouse)
		11,800 mg/m ³ (rat)
	LC50/4 h	11.8 mg/l (rat)
	NOAEC	4.34 mg/l (rat)

141-78-6 ethyl acetate

Oral	LD50	4,100 mg/kg (mouse)
		5,620 mg/kg (rat)
		4,934 mg/kg (rbt)
	NOAEL-Werte	900 mg/kg (rat)
Dermal	LD50	>18,000 mg/kg (rabbit)
Inhalative	LC50	58 mg/l (rat)
	LC50/4 h	1,600 mg/l (rat)
	LC50/1h	200 mg/l (rat)
	LC50/8h	5.86 mg/l (rat)
	LC50/48h	333 mg/l (Leuciscus idus)

25013-15-4 vinyltoluene

Oral	LD50	3,375 mg/kg (rat)
	NOAEL	600 mg/kg (rat)
Dermal	LD50	4,585 mg/kg (rabbit)
Inhalative	LC50/4h	>16,891 mg/m ³ (rat)
	LC50/4 h	11 mg/l (ATE)

13463-67-7 titanium dioxide

Oral	LD50	>5,010 mg/kg (rat)
	NOAEL	24,000 mg/kg (rat)
Dermal	LD50	>10,010 mg/kg (rbt)
Inhalative	NOAEL	10 mg/m ³ (rat)

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	LC50/48h	>100 mg/l (daphnia magna)
7779-90-0 trizinc bis(orthophosphate)		
Oral	LD50	>5,000 mg/kg (rat)
Inhalative	LC50/4 h	>5.7 mg/l (rat)
108-31-6 maleic anhydride		
Oral	LD50	1,090-2,620 mg/kg (rabbit) 400-480 mg/kg (rat)
Dermal	LD50	2,620 mg/kg (rabbit)
Inhalative	LC50/1h	>4.35 mg/l (rat)
	LC50/48h	138 mg/l (lem)

· Primary irritant effect:· Skin corrosion/irritation

Causes skin irritation.

· Serious eye damage/irritation

Causes serious eye irritation.

· Respiratory or skin sensitisation

May cause an allergic skin reaction.

· Additional toxicological information:· Toxicokinetics, metabolism and distribution

After incorporation and inhalation styrene predominantly will be metabolized in the organism to mandelic and phenylglyoxylic acid and metabolites will pass through urine excretion.

· Acute effects (acute toxicity, irritation and corrosivity)

Styrene:

Artificial special nutrition in rat population, acute LD50 value, oral: 5000 mg/kg.

Inhalation, rat population, acute LC50 value (4h): 24 mg/l.

· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Styrene

Tests for chromosome divergence:

Mouse micro-nucleus test: mutagen

Styrene:

Tests for DNA effects:

- exchange of chromatides: mutagen

- DNA chain fragmentation: mutagen

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

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

Suspected of damaging the unborn child.

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

May cause damage to the hearing organs through prolonged or repeated exposure.

· Aspiration hazard

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

SECTION 12: Ecological information· **12.1 Toxicity**· Aquatic toxicity:**100-42-5 styrene**

EC50/96h	6.3 mg/l (Pseudokirchneriella subcapitata)
EC50	500 mg/l (BES) (ISO Vorschrift 8192-1986 E)
	5.5 mg/l (Photobac. phosphoreum)
IC50/72h	4.9 mg/l (green alge)
	1.4 mg/l (selenastrum capricornutum)
IC5/8d	>200 mg/l (Scenedesmus quadricauda)
EC10/16h	72 mg/l (pseudomonas putida)
EC50/16h	>72 mg/l (pseudomonas putida)

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EC50/8d	>200 mg/l (<i>Scenedesmus quadricauda</i>)
EC50/72u	>1-<10 mg/l (green alge)
EC20/0.5h	140 mg/l (BES) (OECD 209)
NOEC/21d	1.01 mg/l (<i>daphnia magna</i>)
EC10	0.28 mg/l (<i>Pseudokirchneriella subcapitata</i>) (EPA OTS 797.1050)
EC50/48h	0.56 mg/l (green alge)
	3.3-7.4 mg/l (<i>daphnia magna</i>)
EC50/72h	0.46-4.3 mg/l (<i>Pseudokirchneriella subcapitata</i>)
LC50/96h	>1-<10 mg/l (<i>piscis</i>)
	19.03-33.53 mg/l (<i>Iem</i>)
	3.24-4.99 mg/l (<i>pimephales promelas</i>)
	6.75-14.5 mg/l (<i>Pimephales promelas</i>)
	58.75-95.32 mg/l (<i>poecilia reticulata</i>)
LC50/72h	4.9 mg/l (green alge)

141-78-6 ethyl acetate

EC50/96h	220 mg/l (<i>Pimephales promelas</i>)
EC10/18h	2,900 mg/l (<i>pseudomonas putida</i>)
EC50/48h	610 mg/l (<i>daphnia magna</i>) (DIN 38412)
	5,600 mg/l (<i>Desmodesmus subspicatus</i>)
IC50/48h	3,300 mg/l (<i>Scenedesmus subspicatus</i>)
LC 0	29.3 mg/l (rat)
NOELR/72h	>100 mg/l (<i>Desmodesmus subspicatus</i>)
NOEC/21d	2.4 mg/l (<i>daphnia magna</i>)
EC10	2,900 mg/l (<i>pseudomonas putida</i>)
EC50/48h	3,300 mg/l (<i>Scenedesmus subspicatus</i>)
LC50/96h	230 mg/l (<i>Oncorhynchus mykiss</i>)
	230 mg/l (<i>Pimephales promelas</i>)

25013-15-4 vinyltoluene

EC50	2.6 mg/l (<i>Bluegill.</i>)
EC50/48h	1.3 mg/l (<i>daphnia magna</i>)
ErC50/72h	4.3 mg/l (<i>Pseudokirchneriella subcapitata</i>)
NOEC	0.563 mg/l (<i>piscis</i>)
NOELR/72h	1.6 mg/l (green alge)
NOEC/21d	0.32 mg/l (<i>daphnia magna</i>)
	0.563 mg/l (<i>piscis</i>)
EC10	0.25 mg/l (<i>Desmodesmus subspicatus</i>)
EC50/72h	0.319 mg/l (<i>Desmodesmus subspicatus</i>)
	5.2 mg/l (<i>Fathead minnow</i>)
	2.6 mg/l (<i>selenastrum capricornutum</i>)
LC50/96h	5.2-23.4 mg/l (<i>piscis</i>)
	5.2 mg/l (<i>pimephales promelas</i>)

13463-67-7 titanium dioxide

EC50	>1,000 mg/l (bacteria)
EC50/48h	>100 mg/l (<i>daphnia magna</i>)
EC50/72h	16 mg/l (<i>Pseudokirchneriella subcapitata</i>)
LC50/96h	>100 mg/l (<i>Oncorhynchus mykiss</i>)

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	>1,000 mg/l (pimephales promelas)
7779-90-0 trizinc bis(orthophosphate)	
EC50/48h	28.2 mg/l (daphnia magna)
ErC50/72h	<0.3 mg/l (Desmodesmus subspicatus)
EC50/48h	<1.7 mg/l (daphnia magna)
EC50/72h	0.28 mg/l (Selenastrum capricornutum)
LC50/96h	<5.1 mg/l (Oncorhynchus mykiss)
136-52-7 cobalt(II) 2-ethylhexanoate	
IC50/72h	528 mg/l (green alge)
108-31-6 maleic anhydride	
EC50/24h	316-330 mg/l (daphnia magna)
EC50	77 mg/l (daphnia magna)
EC10/18h	44.6 mg/l (pseudomonas putida)
EC50/48h	42.81 mg/l (daphnia magna)
ErC50/72h	74.35 mg/l (Pseudokirchneriella subcapitata) (OECD 202)
NOELR/72h	150 mg/l (Pseudokirchneriella subcapitata)
NOEC/21d	10 mg/l (daphnia magna)
EC50/72h	29 mg/l (Desmodesmus subspicatus)
	74.32 mg/l (Pseudokirchneriella subcapitata)
	>150 mg/l (Selenastrum capricornutum)
LC50/96h	75 mg/l (Iepomis macrochirus)
	75 mg/l (Oncorhynchus mykiss)

· **12.2 Persistence and degradability**

No further relevant information available.

· **12.3 Bioaccumulative potential**

No further relevant information available.

· **12.4 Mobility in soil**

No further relevant information available.

· **Ecotoxicological effects:**

· **Remark:**

Harmful to fish

· **Additional ecological information:**

· **General notes:**

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

Harmful to aquatic organisms

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

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

· **PBT:**

Not applicable.

· **vPvB:**

Not applicable.

· **12.6 Other adverse effects**

No further relevant information available.

* **SECTION 13: Disposal considerations**

· **13.1 Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**

· **Recommendation:**

Disposal must be made according to official regulations.

Empty contaminated packaging thoroughly. They may be recycled after thorough and proper cleaning.

· **Recommended cleansing agents:**

Alcohol
acetone

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* **SECTION 14: Transport information**· **14.1 UN-Number**

· ADR, IMDG, IATA

UN3269

· **14.2 UN proper shipping name**

· ADR

3269 POLYESTER RESIN KIT

· IMDG, IATA

POLYESTER RESIN KIT

· **14.3 Transport hazard class(es)**

· ADR



· Class

3 (F3) Flammable liquids.

· Label

3

· IMDG, IATA



· Class

3 Flammable liquids.

· Label

3

· **14.4 Packing group**

· ADR, IMDG, IATA

III

· **14.5 Environmental hazards:**

· Marine pollutant:

No

· **14.6 Special precautions for user**

· Hazard identification number (Kemler code):

Warning: Flammable liquids.

· EMS Number:

- F-E,S-D

· Stowage Category

A

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

Not applicable.

· Transport/Additional information:

· ADR

· Excepted quantities (EQ)

Code: E0

Not permitted as Excepted Quantity

· Remarks:

Without hardener component: no dangerous goods < 450 l

· IMDG

· Limited quantities (LQ)

5L

· Excepted quantities (EQ)

Code: See SP340

· Remarks:

Without hardener component: no dangerous goods < 30 l

· IATA

· Remarks:

Without hardener component: 3/III UN 1866 Resin Solution

· UN "Model Regulation":

UN 3269 POLYESTER RESIN KIT, 3, III

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SECTION 15: Regulatory information

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

- Directive 2012/18/EU
- Named dangerous substances - ANNEX I

None of the ingredients is listed.

- Seveso category

P5c FLAMMABLE LIQUIDS

- Qualifying quantity (tonnes) for the application of lower-tier requirements

5,000 t

- Qualifying quantity (tonnes) for the application of upper-tier requirements

50,000 t

- National regulations:
- Information about limitation of use:

Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
- Waterhazard class:

Water hazard class 2 (Self-assessment): hazardous for water.
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- VOC EU

434.3 g/l

- **15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.
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SECTION 16: Other information

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.

- Relevant phrases

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
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.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H360F	May damage fertility.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
- Recommended restriction of use

refer to Technical Data Sheet (TDS)

- Department issuing SDS:

Laboratory

- Contact:

Elke Hake
Fon ++49 (0)911 64296-59
@mail E.Hake@akemi.de
- Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation

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ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Skin Sens. 1A: Skin sensitisation – Category 1A

Carc. 2: Carcinogenicity – Category 2

Repr. 1A: Reproductive toxicity – Category 1A

Repr. 2: Reproductive toxicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Asp. Tox. 1: Aspiration hazard – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

REACH directive 1907/2006/EC

· Sources

· * Data compared to the previous version altered.

Adaptation in accordance with REACH directive 1907/2006/EC

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