

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 20.06.2024 Version number 3 (replaces version 2) Revision: 20.06.2024

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

· 1.1 Product identifier

· Trade name: Thinner S

· Article number: 11901, 11902, 11904

100-42-5 · CAS Number: 202-851-5 · EC number: 601-026-00-0 · Index number: Registration number 01-2119457861-32

· UFI: WUA0-X0R2-W00P-5NW8

· 1.2 Relevant identified uses of the substance or mixture and

uses advised against No further relevant information available.

· Application of the substance / the

Thinner, Diluent mixture

· 1.3 Details of the supplier of the safety data sheet

· Manufacturer/Supplier: AKEMI chemisch technische Spezialfabrik GmbH Tel. +49(0)911-642960

Lechstrasse 28 Fax. +49(0)911-644456 D 90451 Nürnberg e-mail info@akemi.de

· Further information obtainable

from: Laboratory

· 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.

SECTION 2: Hazards identification

· 2.1 Classification of the substance or mixture

· Classification according to Regulation (EC) No 1272/2008

Flam. Liq. 3 H226 Flammable liquid and vapour.

Acute Tox. 4 H332 Harmful if inhaled. Skin Irrit. 2 H315 Causes skin irritation. Eye Irrit. 2 H319 Causes serious eye irritation.

Repr. 2 H361d Suspected of damaging the unborn child.

STOT SE 3 H335 May cause respiratory irritation.

STOT RE 1 H372 Causes damage to the hearing organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways. Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

· 2.2 Label elements

· Labelling according to Regulation

(EC) No 1272/2008 · Hazard pictograms

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







GHS02

Danger

· Signal word · Hazard-determining components of

labelling: styrene

· Hazard statements H226 Flammable liquid and vapour.

> H332 Harmful if inhaled. H315 Causes skin irritation.

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H319 Causes serious eye irritation.

H361d Suspected of damaging the unborn child.

H335 May cause respiratory irritation.

H372 Causes damage to the hearing organs through prolonged or repeated

exposure.

H304 May be fatal if swallowed and enters airways.

H412 Harmful to aquatic life with long lasting effects.

• Precautionary statements 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/protective clothing/eye protection/face

protection/hearing protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/

doctor.

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.

P312 Call a POISON CENTER/doctor if you feel unwell.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/

regional/national/international regulations.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

PBT: Not applicable.√P∨B: Not applicable.

· Determination of endocrine-

disrupting properties For information on endocrine disrupting properties see section 11.

SECTION 3: Composition/information on ingredients

· 3.1 Substances

· CAS No. Description 100-42-5 styrene

· Identification number(s)

EC number: 202-851-5
 Index number: 601-026-00-0

SECTION 4: First aid measures

· 4.1 Description of first aid measures

• General information: Take affected persons out into the fresh air.

Position and transport stably in side position.

Symptoms of poisoning may even occur after several hours; therefore medical

observation for at least 48 hours after the accident.

· 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: If skin irritation continues, consult a doctor.

Immediately wash with water and soap and rinse thoroughly.

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· After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist,

consult a doctor.

 After swallowing: If symptoms persist consult doctor.

· 4.2 Most important symptoms and effects, both acute and

delayed

Breathing difficulty

Headache Dizziness Dizziness Nausea

 Hazards Danger of impaired breathing.

· 4.3 Indication of any immediate medical attention and special

treatment needed If swallowed, gastric irrigation with added, activated carbon.

SECTION 5: Firefighting measures

5.1 Extinguishing media

· Suitable extinguishing agents: CO2, powder or water spray. Fight larger fires with water spray or alcohol

resistant foam.

· For safety reasons unsuitable

extinguishing agents:

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.

Mount respiratory protective device.

· 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

Ensure adequate ventilation Keep away from ignition sources.

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

Wear protective equipment. Keep unprotected persons away.

· 6.2 Environmental precautions: Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage

system.

Do not allow to enter sewers/ surface or ground water.

· 6.3 Methods and material for

containment and cleaning up: Dispose of the material collected according to regulations.

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

binders, sawdust).

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

· 6.4 Reference to other sections See Section 7 for information on safe handling.

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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 receptacles tightly sealed.

Store in cool, dry place in tightly closed receptacles.

Keep away from heat and direct sunlight.

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than

Use only in well ventilated areas.

Ensure good ventilation/exhaustion at the workplace.

· Information about fire - and

explosion protection: Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· 7.2 Conditions for safe storage, including any incompatibilities

· Requirements to be met by

storerooms and receptacles: Store only in the original receptacle.

Prevent any seepage into the ground.

Information about storage in one

common storage facility:

Store away from oxidising agents.

Store away from foodstuffs.

· Further information about storage

conditions:

Store receptacle in a well ventilated area.

Keep container tightly sealed.

· Storage class:

· 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· Ingredients with limit values that require monitoring at the

Inhalative DNEL (Kurzzeit-akut)

workplace: Not required.

· DNELs

100-42-5 styrene

DNEL (Langzeit-wiederholt) 2.1 mg/kg bw/day (BEV) Oral Dermal

DNEL (Langzeit-wiederholt) 406 mg/kg bw/day (ARB)

343 mg/kg bw/day (BEV)

289-306 mg/m³ Air (ARB)

174.25-182.75 mg/m³ Air (BEV)

DNEL (Langzeit-wiederholt) 85 mg/m3 Air (ARB) 10.2 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)

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PNEC (fest)	0.2 mg/kg Trockengew (BO)		
	0.307 mg/kg Trockengew (MWS)		
	0.614 mg/kg Trockengew (SWS)		

· Additional information:

The lists valid during the making were used as basis.

· 8.2 Exposure controls

· Hand protection

- · Appropriate engineering controls No further data; see section 7.
- · Individual protection measures, such as personal protective equipment

· General protective and hygienic

Do not eat, drink, smoke or sniff while working. measures:

Use skin protection cream for skin protection.

Clean skin thoroughly immediately after handling the product.

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.

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

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

The protection gloves to be used have to comply with the specifications of the directive 89/686/EC and the directive derived decree EN374, respectively, e.g. the above listed protection glove type. The mentioned permeation times' data were generated and verified with material samples of the recommended protection glove type in the scope of laboratory anylyses of the company KCL GmbH in compliance with EN374.

This recommendation refers exclusively to the material safety data sheet

referenced product delivered by Akemi and the indicated field of application. In case of product dilution or in case of mixture with different substances or chemicals, and in condition of EN374 deviation the producer of CE-approved protection gloves must be contacted for detailed information (e.g., KCL GmbH, Germany, 36124 Eichenzell, internet: http://www.kcl.de).



Protective gloves

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

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration

times, rates of diffusion and the degradation

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

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

· 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:

Fluorocarbon rubber (Viton)

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Vitoject (KCL, Art No. 890)

Nitrile rubber, NBR

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

Butyl rubber, BR

Butoject (KCL, Art_No. 897, 898)

· Not suitable are gloves made of

the following materials:

Natural rubber, NR

Chloroprene rubber, CR

Leather gloves Strong material gloves

· Eye/face protection

Tightly sealed goggles

· Body protection: Protective work clothing

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Colour: Colourless Odour: Characteristic -30.7 °C · Melting point/freezing point: · Boiling point or initial boiling point and boiling range 145.2 °C

· Lower and upper explosion limit

1.2 Vol % · Lower: · Upper: 8.9 Vol % 31 °C · Flash point: · Auto-ignition temperature: 480 °C

· pH

· Viscosity:

· Kinematic viscosity Not determined. · Dynamic at 20 °C: 0.73 mPas

· Solubility

· water at 20 °C: 0.24 g/l

· Partition coefficient n-octanol/water (log value) Not determined.

· Vapour pressure at 20 °C: · Vapour pressure at 50 °C: 6 hPa 35 hPa

Density and/or relative density

· Density at 20 °C: 0.91 g/cm³

9.2 Other information

· Appearance:

· Form: Fluid

· Important information on protection of health and

environment, and on safety.

· Explosive properties: Product is not explosive. However, formation of explosive

Not determined.

air/vapour mixtures are possible.

99.9 % · Organic solvents:

· Molecular weight 104.15 g/mol

· Information with regard to physical hazard classes

Explosives Void · Flammable gases Void · Aerosols Void Oxidising gases Void

Void · Gases under pressure

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· Flammable liquids	Flammable liquid and vapour.
Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in	
contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
Desensitised explosives	Void

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 and stored according to specifications.

10.3 Possibility of hazardous

<u>reactions</u> Exothermic polymerisation.

Reacts with strong oxidising agents.

No further relevant information available.

• 10.4 Conditions to avoid No further relevant information available.

10.5 Incompatible materials: No further relevant information available.

· 10.6 Hazardous decomposition

products: No dangerous decomposition products known.

SECTION 11: Toxicological information

· 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

· Acute toxicity Harmful if inhaled.

· LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Inhalative LC50/4 h 11.8 mg/l (rat)

100-42-5	styrene

Oral LD50 5,000 mg/kg (rat)

Dermal LD50 >2,000 mg/kg (rat) (OECD-Prüfrichtlinie 402)

Inhalative LC50/4h 9.5 mg/m3 (mouse)

11,800 mg/m3 (rat) LC50/4 h 11.8 mg/l (rat) NOAEC 4.34 mg/l (rat)

· Skin corrosion/irritation Causes skin irritation.

· Serious eye damage/irritation Causes serious eye irritation.

Respiratory or skin sensitisation
 Germ cell mutagenicity
 Carcinogenicity
 Based on available data, the classification criteria are not met.
 Based on available data, the classification criteria are not met.
 Based on available data, the classification criteria are not met.

· Reproductive toxicity Suspected of damaging the unborn child.

• STOT-single exposure May cause respiratory irritation.

• STOT-repeated exposure Causes damage to the hearing organs through prolonged or repeated exposure.

· Aspiration hazard May be fatal if swallowed and enters airways.

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· 11.2 Information on other hazards

· Endocrine disrupting properties

Substance is not listed.

SECTION 12: Ecological information

· 12.1 Toxicity

· 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 (algae)		
	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)		
EC50/8d	>200 mg/l (Scenedesmus quadricauda)		
EC50/72u	>1-<10 mg/l (algae)		
EC20/0.5h	140 mg/l (BES) (OECD 209)		
NOEC/21d	1.01 mg/l (daphnia magna)		
EC10	0.28 mg/l (Pseudokirchneriella subcapitata) (EPA OTS 797.1050)		
EC50/48h	n 0.56 mg/l (algae)		
	3.3-7.4 mg/l (daphnia magna)		
EC50/72h	0.46-4.3 mg/l (Pseudokirchneriella subcapitata)		
LC50/96h	>1-<10 mg/l (piscis)		
	19.03-33.53 mg/l (lem)		
	3.24-4.99 mg/l (pimephales promelas)		
	6.75-14.5 mg/l (Pimephales promelas)		
	58.75-95.32 mg/l (poecilia reticulata)		
LC50/72h	4.9 mg/l (algae)		
. 42 2 Daraia	tanana anal		

12.2 Persistence and

degradability
 12.3 Bioaccumulative potential
 12.4 Mobility in soil
 No further relevant information available.
 No further relevant information available.

12.5 Results of PBT and vPvB assessment
 PBT: Not applicable.
 vPvB: Not applicable.

12.6 Endocrine disrupting

properties The product does not contain substances with endocrine disrupting properties.

· 12.7 Other adverse effects · Additional ecological information:

· <u>General notes:</u> Do not allow product to reach ground water, water course or sewage system.

Water hazard class 2 (German Regulation) (Assessment by list): hazardous for

water

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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.

· European waste catalogue				
	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS			
20 01 00	separately collected fractions (except 15 01)			
20 01 13*	solvents			

Uncleaned packaging:

• Recommendation: Empty contaminated packagings thoroughly. They may be recycled after

thorough and proper cleaning.

· Recommended cleansing agents: Alcohol

SECTION 14: Transport information

· 14.1 UN number or ID number		
· ADR, IMDG, IATA	UN2055	

14.2 UN proper shipping name

 $\begin{array}{ll} \cdot \ \underline{ADR} \\ \cdot \ \underline{IMDG, IATA} \end{array} \hspace{1cm} 2055 \ STYRENE \ MONOMER, STABILIZED \ solution \\ STYRENE \ MONOMER, STABILIZED \ solution \\ \end{array}$

· 14.3 Transport hazard class(es)

· ADR



· Class 3 (F1) Flammable liquids.

· Label

· IMDG, IATA



· Class 3 Flammable liquids.

· <u>Label</u>

14.4 Packing group

· ADR, IMDG, IATA

· 14.5 Environmental hazards:

· Marine pollutant: No

• 14.6 Special precautions for user Warning: Flammable liquids.

· <u>Hazard identification number (Kemler code):</u> 39 · EMS Number: F-E,S-D

· Stowage Category A

14.7 Maritime transport in bulk according to IMO

instruments Not applicable.

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· Transport/Additional information:

· ADR

· Limited quantities (LQ) 5L

· Excepted quantities (EQ) Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

Transport categoryTunnel restriction codeD/E

·IMDG

· Limited quantities (LQ) 5L

· Excepted quantities (EQ) Code: E1

Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

· <u>UN "Model Regulation":</u> UN 2055 STYRENE MONOMER, STABILIZED SOLUTION, 3,

Ш

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 Substance is not 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

· REGULATION (EC) No 1907/2006

ANNEX XVII Conditions of restriction: 3

· DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

Substance is not listed.

· REGULATION (EU) 2019/1148

· Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

Substance is not listed.

· Annex II - REPORTABLE EXPLOSIVES PRECURSORS

Substance is not listed.

· Regulation (EC) No 273/2004 on drug precursors

Substance is not listed.

· Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

Substance is not listed.

· National regulations:

· Information about limitation of use: Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be

observed.

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· Waterhazard class: Water hazard class 2 (Assessment by list): hazardous for water.

· Substances of very high concern (SVHC) according to REACH, Article 57

Substance is not listed.

· VOC EU 906.1 g/l

15.2 Chemical safety

assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This Safety Data Sheets is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

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.

Department issuing SDS:
 Date of previous version:
 Laboratory
 20.12.2022

· Version number of previous

version:

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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)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

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 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 SVHC: Substances of Very High Concern vPvB: very Persistent and very Bioaccumulative

ATE: Acute toxicity estimate values

Flam. Liq. 3: Flammable liquids – Category 3 Acute Tox. 4: Acute toxicity – Category 4 Skin Irrit. 2: Skin corrosion/irritation – Category 2

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

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

Asp. Tox. 1: Aspiration hazard – Category 1

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

EU