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

1.1. Product identifier

Trade name

SYNOLITE 5700-P-1

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

Use of the substance/mixture

Purpose of use: Raw substance formulas for manufacturing shaped parts from unsaturated polyester / vinyl ester resins.

Uses advised against

SU21 Consumer uses: Private households (= general public = consumers)

1.3. Details of the supplier of the safety data sheet

Address

BÜFA Composite Systems GmbH & Co. KG
Hohe Looge 2-8
26180 Rastede

Telephone no.	+49 4402 975-0
Fax no.	+49 4402 975-400
Information provided by / telephone	Department product safety / +49 4402 975-415
E-Mail	produktsicherheit-bcs@buefa.de

1.4. Emergency telephone number

Giftzentrale Goettingen: +49 551 19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 3	H226	
Skin Irrit. 2	H315	
Eye Irrit. 2	H319	
Repr. 2	H361d	
STOT SE 3	H335	
STOT RE 1	H372	Organs: Ear; Route of exposure: inhalative
Aquatic Chronic 3	H412	

The product is classified and labelled in accordance with Regulation (EC) No 1272/2008
For explanation of abbreviations see section 16.

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Danger

Hazard statements

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H361d	Suspected of damaging the unborn child.
H335	May cause respiratory irritation.
H372	Causes damage to organs through prolonged or repeated exposure. Ear; Route of exposure: inhalative
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P210.9	Keep away from sparks, open flames and other ignition sources. No smoking.
P260.8	Do not breathe vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
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.
P308+P313	IF exposed or concerned: Get medical advice/ attention.

Hazardous component(s) to be indicated on label (Regulation (EC) No. 1272/2008)

contains styrene

2.3. Other hazards

The product contains no PBT substances. The product contains no vPvB substances. This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients

styrene

CAS No.	100-42-5			
EINECS no.	202-851-5			
Registration no.	01-2119457861-32-XXXX			
Concentration	>=	29	<	30 %
Flam. Liq. 3	H226			
Skin Irrit. 2	H315			
Acute Tox. 4	H332			
Eye Irrit. 2	H319			
STOT SE 3	H335			
STOT RE 1	H372	Organs: Ear; Route of exposure: inhalative		
Asp. Tox. 1	H304			
Repr. 2	H361d			
Aquatic Chronic 3	H412			
STOT RE 1	H372			

cATpE	inhalative, Dust/Mist	1,5	mg/l
ATE	inhalative, Vapors	11,8	mg/l

Additional remarks:

CLP Regulation (EC) No 1272/2008, Annex VI, Note D

Complete text of hazard statements in chapter 16

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Adhere to personal protective measures when giving first aid. Remove soiled or soaked clothing immediately, do not allow to dry. If the patient is likely to become unconscious, place and transport in stable sideways position.

After inhalation

Remove the casualty into fresh air and keep him calm. Irregular breathing/no breathing: artificial respiration. In the event of symptoms take medical treatment.

After skin contact

Wash off immediately with soap and water.

After eye contact

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Seek medical advice immediately. Remove contact lenses

After ingestion

Rinse mouth thoroughly with water. Summon a doctor immediately. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. If individual is drowsy or unconscious place in recovery position (on left side, with head down).

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

The following symptoms may occur: Headache, Dizziness, Nausea, Dizziness

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

Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam, Dry powder, Carbon dioxide

Non suitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In case of combustion evolution of dangerous gases possible. In the event of fire the following can be released: Carbon monoxide (CO); Nitrogen oxides (NOx); dense black smoke

5.3. Advice for firefighters

Use self-contained breathing apparatus.
Cool endangered containers with water spray jet. Collect contaminated fire-fighting water separately, must not be discharged into the drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with skin, eyes and clothing. Use personal protective clothing. Keep away sources of ignition. Ensure adequate ventilation. Use breathing apparatus if exposed to vapours/dust/aerosol.

6.2. Environmental precautions

Do not allow to enter drains or waterways. Do not discharge into the subsoil/soil. Prevent spread over a wide area (e.g. by containment or oil barriers).

6.3. Methods and material for containment and cleaning up

Pick up with absorbent material (eg sand, kieselgur, acid binder, universal binder, sawdust). When picked up, treat material as prescribed under Section 13 "Disposal".

6.4. Reference to other sections

Information regarding Safe handling, see Section 7. Information regarding personal protective measures,

see Section 8. Information regarding waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Provide good ventilation of working area (local exhaust ventilation if necessary). Avoid formation of aerosols. Observe the usual precautions for handling chemicals.
Keep away from sources of ignition - No smoking. Take action to prevent static discharges. Vapours can form an explosive mixture with air.

7.2. Conditions for safe storage, including any incompatibilities

Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep container tightly closed and dry in a cool, well-ventilated place. Protect from heat and direct sunlight.

7.3. Specific end use(s)

No information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit values

styrene

List	EH40			
Type	WEL			
Value	430	mg/m³	100	ppm(V)
Short term exposure limit	1080	mg/m³	250	ppm(V)

Derived No/Minimal Effect Levels (DNEL/DMEL)

styrene

DNEL				
Conditions	Worker	Acute	inhalative	Systemic effects
Concentration	289	mg/m³		
DNEL				
Conditions	Worker	Long term	inhalative	Systemic effects
Concentration	85	mg/m³		
DNEL				
Conditions	Worker	Acute	inhalative	Local effects
Concentration	306	mg/m³		
DNEL				
Conditions	Worker	Long term	dermal	Systemic effects
Concentration	406	mg/kg/d		

8.2. Exposure controls

Appropriate engineering controls

Use only in well ventilated areas.
Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommendedor statutory limits.

General protective and hygiene measures

Provide good ventilation of working area (local exhaust ventilation if necessary). Avoid contact with skin and eyes. Do not inhale gases/vapours/aerosols. Personal protective equipment must comply with the Regulation (EC) No 2016/425 and the resulting CEN standards.

Respiratory protection

If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn. Short term: filter apparatus, Filter A; Self-contained breathing apparatus. Respiratory protection must comply with DIN EN 136 / DIN EN 140 / DIN EN 143 / DIN EN 149.

Hand protection

Chemical resistant gloves

Appropriate Material	Butyl rubber		
Material thickness		0,7	mm
Breakthrough time	=	30	min

Hand protection must comply with EN 374.

Eye protection

Tightly fitting safety glasses; Eye protection must comply with EN ISO 16321-1:2022.

Body protection

Clothing as usual in the chemical industry. Wear protective clothing according to EN 13034: 2005 + A1: 2009.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form	liquid
Colour	blue-green
Odour	characteristic

Melting point

Remarks	Not applicable

Freezing point

Remarks	Not applicable

Boiling point

Value	145	°C
Remarks	Information refers to the main component.	

Flammability

Flammable.

Explosion limits

Lower explosion limit	1,1	to	6,1	%(V)
Remarks	Information refers to the main component.			

Flash point

Value	34	°C
Method	ISO 3679-B	

Auto-ignition temperature

Value	490	°C
Remarks	Information refers to the main component.	

Thermal decomposition

Remarks	No data available

Self Accelerating Decomposition / Polymerization Temperature (SADT/SAPT)

Remarks	Not applicable

pH value

Remarks	Not applicable

Solubility in other solvents

Value	320		mg/l
	25	°C	
Remarks	Information refers to the main component.		

Source	Manufacturer's data		

Octanol/water partition coefficient (log Pow)

Remarks	No data available		

Vapour pressure

Value	6,67		hPa
Temperature	20	°C	
Remarks	Information refers to the main component.		

Density

Value	1,1		g/cm³
Temperature	20	°C	
Method	DIN EN ISO 2811-1		

Vapour density

Remarks	No data available		

Particle characteristics

Remarks	Not applicable		

9.2. Other information

Efflux time

Value	>	61		s
Temperature		23	°C	
Method	DIN EN ISO 2431 - 6 mm			

SECTION 10: Stability and reactivity

10.1. Reactivity
No hazardous reactions when stored and handled according to prescribed instructions.

10.2. Chemical stability
The product is stable.

10.3. Possibility of hazardous reactions
Under normal conditions of storage and use, hazardous reactions will not occur.

10.4. Conditions to avoid
Protect from heat and direct sunlight.

Thermal decomposition

Remarks	No data available

10.5. Incompatible materials
Reactions with peroxides and other radical components.

10.6. Hazardous decomposition products
No hazardous decomposition products known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity

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

Acute oral toxicity (Components)

styrene

Acute dermal toxicity

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

Acute dermal toxicity (Components)

styrene

Acute inhalational toxicity

ATE	40,69	mg/l
Administration/Form	Vapors	
Method	calculated value (Regulation (EC) No. 1272/2008)	
ATE	5,17	mg/l
Administration/Form	Dust/Mist	
Method	calculated value (Regulation (EC) No. 1272/2008)	

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

Acute inhalative toxicity (Components)

styrene

Skin corrosion/irritation

evaluation irritant
The classification criteria are met.

Serious eye damage/irritation

evaluation irritant
The classification criteria are met.

Sensitization

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

Mutagenicity

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

Reproductive toxicity

evaluation Suspected of damaging the unborn child.
The classification criteria are met.

Carcinogenicity

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

Specific Target Organ Toxicity (STOT)

Single exposure

The classification criteria are met.
evaluation May cause respiratory irritation.

Repeated exposure

The classification criteria are met.
evaluation Causes damage to organs through prolonged or repeated exposure

Specific Target Organ Toxicity (STOT) (Components)

styrene

Repeated exposure

evaluation Causes damage to organs through prolonged or repeated exposure
Route of exposure inhalative
Organs: Ear

Aspiration hazard

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

11.2. Information on other hazards

Endocrine disrupting properties with respect to humans

The product does not contain a substance that has endocrine disrupting properties with respect to humans.

Other information

Inhalation of solvent vapours in higher concentration may lead to nausea, headache, drowsiness and dizziness.

SECTION 12: Ecological information

12.1. Toxicity

Fish toxicity

styrene

LC/EC/IC50	>	1,0	to	10	mg/l

Daphnia toxicity

styrene

Species	Daphnia magna				
LC/EC/IC50	>	1,0	to	10	mg/l

Algae toxicity

styrene

LC/EC/IC50	>	1,0	to	10	mg/l

Bacteria toxicity

No toxicological data are available.

12.2. Persistence and degradability

For this subsection there is no ecotoxicological data available on the product as such.

Biodegradability

styrene

evaluation	Readily biodegradable (according to OECD criteria)

12.3. Bioaccumulative potential

For this subsection there is no ecotoxicological data available on the product as such.

Octanol/water partition coefficient (log Pow)

Remarks	No data available

12.4. Mobility in soil

For this subsection there is no ecotoxicological data available on the product as such.

12.5. Results of PBT and vPvB assessment

Evaluation of persistance and bioaccumulation potential

The product contains no PBT substances
The product contains no vPvB substances.

12.6 Endocrine disrupting properties

Endocrine disrupting properties with respect to the envrionment

The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

For this subsection there is no ecotoxicological data available on the product as such.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

EWC waste code 07 02 08* other still bottoms and reaction residues
The listed waste code numbers, according to the European Waste Catalogue (EWC), are to be understood as a recommendation. A final decision must be made in agreement with the regional waste disposal company.

Disposal recommendations for packaging

Packaging that cannot be cleaned should be disposed off as product waste.

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee
14.1. UN number	1866	1866
14.2. UN proper shipping name	RESIN SOLUTION	RESIN SOLUTION
14.3. Transport hazard class(es)	3	3
14.4. Packing group	III	III
Label		
14.5. Environmental hazards	-	
Limited Quantity		5 l
Limited Quantity	5 l	
Transport category	3	
Tunnel restriction code	D/E	
Hazard id. no.	30	
EmS		F-E, S-E
Remarks	Viscous product: Transport according to paragraph 2.2.3.1.5 ADR/RID	Transport according to 2.3.2.5 of the IMDG Code

Information for all modes of transport

14.6. Special precautions for user

Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Other information

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information ***

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

Major-accident categories acc. 2012/18/EU

Category	P5c	FLAMMABLE LIQUID

VOC ***

VOC (EU)	0	%
Remarks	This product may contain solvents that change chemically during processing. According to the Industrial Emissions Directive (Regulation 2010/75), such solvents are not to be classified as volatile organic compounds (VOC).	

Other information

The product does not contain substances according to: Candidate List for inclusion in Annex XIV of Regulation (EC) No. 1907/2006 (REACH).

15.2. Chemical safety assessment

No information available

SECTION 16: Other information

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Flam. Liq. 3	H226	On basis of test data
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Repr. 2	H361d	Calculation method
STOT SE 3	H335	Calculation method
STOT RE 1	H372	Calculation method
Aquatic Chronic 3	H412	Calculation method

Hazard statements listed in Chapter 2/3

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

CLP categories listed in Chapter 2/3

Acute Tox. 4	Acute toxicity, Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Irrit. 2	Eye irritation, Category 2
Flam. Liq. 3	Flammable liquid, Category 3
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin irritation, Category 2
STOT RE 1	Specific target organ toxicity - repeated exposure, Category 1
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Abbreviations

ATE: Acute Toxicity Estimates
CAS: Chemical Abstracts Service
cATpE: Converted acute toxicity point estimate
EAK: Europäischer Abfallkatalog
EINECS: European Inventory of Existing Commercial Chemical Substances
PBT: Persistent, Bioaccumulative and Toxic
vPvB: Very persistent and very bioaccumulative
VOC: Volatile Organic Compound

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.