

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 31.08.2018

V - 5

Revision: 25.01.2018

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

- **1.1 Product identifier**
 - **Trade name:** FERRO-GLAS
 - **1.2 Relevant identified uses of the substance or mixture and uses advised against** Not determined
 - **Application of the substance / the mixture** Knife filler/ Surfacers
 - **1.3 Details of the supplier of the safety data sheet**
 - **Manufacturer/Supplier:**
Vosschemie GmbH
Esinger Steinweg 50
D-25436 Uetersen
Phone: +49 (0)4122 717 0; Fax: +49 (0)4122 717158; info@vosschemie.de
 - **Further information obtainable from:**
Abteilung Labor / +49 (0)4122 717 0
s.schaller@vosschemie.de
 - **1.4 Emergency telephone number:**
Giftinformationszentrum (GIZ)-Nord, Goettingen, Deutschland
Phone: +49 (0)551 19240
-

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

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Repr. 2 H361d Suspected of damaging the unborn child.

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



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

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

· **Hazard pictograms**



GHS02



GHS07



GHS08

· **Signal word Danger**

· **Hazard-determining components of labelling:**

styrene

· **Hazard statements**

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H361d Suspected of damaging the unborn child.

H372 Causes damage to the hearing organs through prolonged or repeated exposure. Route of exposure: Inhalation.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P201 Obtain special instructions before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260 Do not breathe mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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.

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.

· **vPvB:** Not applicable.

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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 Reg.nr.: 01-2119457861-32	styrene 	10-<20%
CAS: 2687-91-4 EINECS: 220-250-6 Reg.nr.: 01-2119472138-36	N-ethyl-2-pyrrolidone 	0.1-<0.3%

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.

Personal protection for the First Aider.

Take affected persons out of danger area and lay down.

In case of irregular breathing or respiratory arrest provide artificial respiration.

Immediately remove any clothing soiled by the product.

After inhalation:

Supply fresh air or oxygen; call for doctor.

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.

Call a doctor immediately.

After swallowing: Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

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

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.

5.3 Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device.

Do not inhale explosion gases or combustion gases.

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· **Additional information**

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

Avoid contact with the eyes and skin.

Ensure adequate ventilation

Do not inhale gases / fumes / aerosols.

Keep away from ignition sources.

· **6.2 Environmental precautions:**

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

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

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

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

Do not flush with water or aqueous cleansing agents

· **6.4 Reference to other sections**

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 receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

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

Keep ignition sources away - Do not smoke.

Fumes can combine with air to form an explosive mixture.

Protect against electrostatic charges.

Use explosion-proof apparatus / fittings and spark-proof tools.

Ground/bond container and receiving equipment.

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

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.

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

Store away from oxidising agents.

Store away from foodstuffs.

· **Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

Store receptacle in a well ventilated area.

Protect from heat and direct sunlight.

· **Recommended storage temperature:** < 30°C

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· 7.3 *Specific end use(s)* No further relevant information available.**SECTION 8: Exposure controls/personal protection**· *Additional information about design of technical facilities:* No further data; see item 7.· 8.1 *Control parameters*· *Ingredients with limit values that require monitoring at the workplace:***100-42-5 styrene**

WEL (Great Britain)	Short-term value: 1080 mg/m ³ , 250 ppm Long-term value: 430 mg/m ³ , 100 ppm
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· *DNELs***100-42-5 styrene**

Oral	Long-term exposure - systemic effects	2.1 mg/kg bw/day (general population)
Dermal	Long-term exposure - systemic effects	343 mg/kg bw/day (general population) 406 mg/kg bw/day (worker)
Inhalative	Long-term exposure - systemic effects	10.2 mg/m ³ (general population) 85 mg/m ³ (worker)
	Acute/short-term exposure - systemic effects	174.25 mg/m ³ (general population) 289 mg/m ³ (worker)
	Acute/short-term exposure - local effects	182.75 mg/m ³ (general population) 306 mg/m ³ (worker)

· *PNECs***100-42-5 styrene**

PNEC aqua	28 mg/l (freshwater) 0.0028 mg/l (marine water) 0.04 mg/l (intermittent releases)
PNEC sediment	614 mg/kg (freshwater) 0.0614 mg/kg (marine water)
PNEC STP	5 mg/l
PNEC soil	0.2 mg/kg (soil dw)

· *Additional information:* The lists valid during the making were used as basis.· 8.2 *Exposure controls*· *Personal protective equipment:*· *General protective and hygienic measures:*

Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
Wash hands before breaks and at the end of work.
Keep away from foodstuffs, beverages and feed.
Do not eat, drink, smoke or sniff while working.
Store protective clothing separately.
Immediately remove all soiled and contaminated clothing
Take off contaminated clothing.
Use skin protection cream for skin protection.

· *Respiratory protection:*

Ensure good ventilation/exhaustion at the workplace.

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Adhere to the workplace limit values and / or other threshold values.

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.

Filter A/P2

· Protection of hands:



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

Check the permeability prior to each renewed use of the glove.

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

· Material of gloves

DIN EN 374

Fluorocarbon rubber (Viton)

Recommended thickness of the material: ≥ 0.7 mm

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

Value for the permeation: Level ≤ 6 (≥ 480 min)

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

· Not suitable are gloves made of the following materials:

Natural rubber, NR

Chloroprene rubber, CR

Nitrile rubber, NBR

Butyl rubber, BR

PVC gloves

· Eye protection:

DIN EN 166



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

· Appearance:

Form: *Pasty*

Colour: *Green*

· Odour: *Characteristic*

· pH-value: *Not determined*

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· Change in condition	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	145 °C
· Flash point:	31 °C
· Ignition temperature:	480 °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:	1.8 g/cm ³
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient: n-octanol/water:	Not determined
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No decomposition if used according to specifications.
- **10.2 Chemical stability** No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions**
Reacts with peroxides and other radical forming substances.
Exothermic polymerisation.
- **10.4 Conditions to avoid**
Protect from heat.
Avoid naked flames, sparks, other ignition sources and sunlight.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Formation of toxic gases is possible during heating or in case of fire.

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:**

Inhalative	ATE	74.8 mg/l (mix) (Calculation method)
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100-42-5 styrene

Oral	LD50	5,000 mg/kg (rat)
Dermal	LD 50	>2,000 mg/kg (rat) (OECD 402)
Inhalative	LC50 /4h	11.8 mg/l (rat)

2687-91-4 N-ethyl-2-pyrrolidone

Oral	LD50	3,200 mg/kg (rat) (OECD 401)
Dermal	LD 50	>2,000 mg/kg (rat) (OECD 402)
Inhalative	LC 50 / 4h	>5.1 mg/l (rat) (OECD 403, Aerosol)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.

· **Subacute to chronic toxicity:****100-42-5 styrene**

Inhalative	NOAEL (subacute)	0.85 mg/l (rat) (13w, 6h/day, Vapour)
	NOAEL (subchronic)	0.8 mg/l (rat) (OECD 453, 2a, 6h/day, Vapour)

- **Sensitisation** No sensitising effects known.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

· **Carcinogenicity****100-42-5 styrene**

Inhalative	NOAEL (carcinogenicity)	4.34 mg/l (rat) (OECD 453, 2a, 6h/day, 5d/week, Vapour)
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· **Reproductive toxicity/Fertility****100-42-5 styrene**

Inhalative	NOAEL (fertility)	0.65 mg/l (rat, parents) (OECD 416, Vapour)
		0.22 mg/l (rat, F2) (OECD 416, Vapour)
		2.2 mg/l (rat) (OECD 416, Parents, Vapour)

· **Reproductive toxicity/Teratogenicity****100-42-5 styrene**

Inhalative	NOAEL (developmental toxicity)	2.6 mg/l (rat)
	NOAEL (teratogenicity)	2.6 mg/l (rat)
	LOAEL (maternally)	1.3 mg/l (rat)

- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity**
Suspected of damaging the unborn child.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure**
Causes damage to the hearing organs through prolonged or repeated exposure. Route of exposure: Inhalation.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

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SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

100-42-5 styrene

EC10/96h	0.28 mg/l (Pseudokirchneriella subcapitata) (EPA OTS 797.1050)
EC50/48h	4.7 mg/l (daphnia magna) (OECD 202)
EC50/72h	4.9 mg/l (Pseudokirchneriella subcapitata) (EPA OTS 797.1050)
EC50/0.5h	500 mg/l (activated sludge) (OECD 209)
LC50/96h	4.02 mg/l (pimephales promelas)
NOEC	1.01 mg/l (daphnia magna) (OECD-211 21d)

2687-91-4 N-ethyl-2-pyrrolidone

EC50/48h	>104 mg/l (daphnia) (OECD 202)
EC50/72h	>101 mg/l (desmodesmus subspicatus) (OECD 201)
NOEC	12.5 mg/l (daphnia) (OECD 211, 21d)

· 12.2 Persistence and degradability

100-42-5 styrene

Biodegradation	70.9 % (activated sludge) (ISO DIN 9408, 28d, aerob)
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· 12.3 Bioaccumulative potential

100-42-5 styrene

log Kow	2.95
BCF	74 (calculated)
	13.5 (fish)

· Behaviour in environmental systems:

· 12.4 Mobility in soil

100-42-5 styrene

log Koc	2.55
Koc	352

· Additional ecological information:

· General notes:

Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

· 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.

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· **Waste disposal key:**

The waste codes given above are to be considered recommendations; because of regional and industrial sector specific features, application of different waste codes is possible.

· **European waste catalogue**

07 02 08*	other still bottoms and reaction residues
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· **Uncleaned packaging:**· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN-Number**· **ADR, IMDG, IATA**

UN1866

· **14.2 UN proper shipping name**· **ADR**

1866 RESIN SOLUTION

· **IMDG, IATA**

RESIN SOLUTION

· **14.3 Transport hazard class(es)**· **ADR, IMDG, IATA**· **Class**

3 Flammable liquids.

· **Label**

3

· **14.4 Packing group**· **ADR, IMDG, IATA**

III

· **14.5 Environmental hazards:**

Not applicable.

· **14.6 Special precautions for user**

Warning: Flammable liquids.

· **Danger code (Kemler):**

30

· **EMS Number:**

F-E, S-E

· **Stowage Category**

A

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

Not applicable.

· **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

· **Tunnel restriction code**

D/E

· **Remarks:**

ADR 2.2.3.1.5

≤ 450 l: -

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- | | |
|---|--|
| <ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) · Remarks: | <p>5L
Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
IMDG-Code 2.3.2.5
≤ 30 l: -</p> |
|---|--|

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **European regulations**
- **Directive 2004/42/EC** 2004/42/IIB (b) (250) <250
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category** P5c FLAMMABLE LIQUIDS
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40
- **National regulations:**
- **Information about limitation of use:**
Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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**
- H226 Flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H360Df May damage the unborn child. Suspected of damaging fertility.
- H361d Suspected of damaging the unborn child.
- H372 Causes damage to the hearing organs through prolonged or repeated exposure. Route of exposure: Inhalation.
- H412 Harmful to aquatic life with long lasting effects.
- **Classification according to Regulation (EC) No 1272/2008**
- Flam. Liq.3, H226
- Skin. Irrit.2, H315
- Eye Irrit.2, H319
- Rep. 2, H361d
- STOT RE 1, H372
- **Classification procedure**
- Bridging principle "Substantially similar mixtures"
- Calculation method
- Calculation method
- Calculation method
- Calculation method

- **Department issuing SDS:** Abteilung Labor

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· **Contact:** Frau S. Schaller

· **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

ADR: Accord européen sur le transport 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. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity – Category 4

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

Repr. 1B: Reproductive toxicity – Category 1B

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

· *** Data compared to the previous version altered.**