

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version 2.0 GB / EN Revision Date: 20.04.2020 Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

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

1.1 Product identifier

Trade name : Carsystem Steel

Product code : 138.587

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

Use of the Sub-stance/Mixture : Body filler/stopper

Recommended restrictions on use : Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet

Company : Vosschemie GmbH
Esinger Steinweg 50
25436 Uetersen
Germany
info@vosschemie.de

Telephone : 04122 717 0
Telefax : 04122 717158

Responsible Department : Laboratory

04122 717 0
sds@vosschemie.de

1.4 Emergency telephone number

Telephone : Giftinformationszentrum (GIZ)-Nord,
Göttingen, Deutschland
0551 19240

Carsystem Steel

Version 2.0 GB / EN Revision Date: 20.04.2020 Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

SECTION 2: Hazards identification


2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Reproductive toxicity, Category 2	H361d: Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Specific target organ toxicity - repeated exposure, Category 1	H372: Causes damage to organs through prolonged or repeated exposure.
Long-term (chronic) aquatic hazard, Category 3	H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H226 Flammable liquid and vapour. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. 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.
Precautionary statements	:	Prevention: 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 dust / mist / vapours. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/ protective clothing/ eye protec-

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version
2.0

GB / EN

Revision Date:
20.04.2020

Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

tion/ face protection.

Response:

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.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

Hazardous components which must be listed on the label:

styrene

solvent naphtha (petroleum), light arom.

maleic anhydride

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Mixture
contains
Resin

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
styrene	100-42-5 202-851-5 601-026-00-0 01-2119457861-32	Flam. Liq. 3; H226 Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Repr. 2; H361d STOT SE 3; H335 STOT RE 1; H372 Asp. Tox. 1; H304 Aquatic Chronic 3; H412	>= 20 - < 25
solvent naphtha (petroleum), light arom.	64742-95-6 265-199-0 649-356-00-4 01-2119455851-35	Flam. Liq. 3; H226 STOT SE 3; H336 STOT SE 3; H335 Asp. Tox. 1; H304	>= 1 - < 2.5

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version 2.0 GB / EN Revision Date: 20.04.2020 Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

		Aquatic Chronic 2; H411	
maleic anhydride	108-31-6 203-571-6 607-096-00-9 01-2119472428-31	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Resp. Sens. 1; H334 Skin Sens. 1A; H317 STOT RE 1; H372	$\geq 0.001 - < 0.1$
Substances with a workplace exposure limit :			
Silicon dioxide	7631-86-9 231-545-4 01-2119379499-16		$\geq 1 - < 10$

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
Move out of dangerous area.
Take off contaminated clothing and shoes immediately.
Do not leave the victim unattended.
Symptoms of poisoning may appear several hours later.
Show this safety data sheet to the doctor in attendance.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
- If inhaled : Move to fresh air.
Keep patient warm and at rest.
If breathing is irregular or stopped, administer artificial respiration.
Call a physician immediately.
- In case of skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Call a physician if irritation develops or persists.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Keep eye wide open while rinsing.
If easy to do, remove contact lens, if worn.
Consult a physician.
- If swallowed : Rinse mouth with water.
Do NOT induce vomiting.
Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

- Risks : Causes skin irritation.
May cause an allergic skin reaction.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version	Revision Date:	Date of last issue: 29.01.2020
2.0	20.04.2020	Date of first issue: 09.04.2019

Causes serious eye irritation.
May cause respiratory irritation.
Suspected of damaging the unborn child.
Causes damage to organs through prolonged or repeated exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.
Keep under medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Carbon dioxide (CO₂)
Dry powder
Water spray jet
Alcohol-resistant foam

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.

Hazardous combustion products : Hazardous decomposition products due to incomplete combustion
Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

Further information : Use water spray to cool unopened containers.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Wear personal protective equipment.
Evacuate personnel to safe areas.
Ensure adequate ventilation, especially in confined areas.
Remove all sources of ignition.
Do not smoke.
Avoid contact with skin, eyes and clothing.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version	Revision Date:	Date of last issue: 29.01.2020
2.0	20.04.2020	Date of first issue: 09.04.2019

Sweep up to prevent slipping hazard.
In the case of vapour formation use a respirator with an approved filter.

6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.
Do not flush with water.

6.4 Reference to other sections

For personal protection see section 8., For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Keep container closed when not in use.
Provide sufficient air exchange and/or exhaust in work rooms.
Wear personal protective equipment.
Avoid contact with skin and eyes.
Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture.
Avoid inhalation of dust from sanding.

Advice on protection against fire and explosion : Vapours may form explosive mixtures with air.
Keep away from open flames, hot surfaces and sources of ignition.
Do not smoke.
Take measures to prevent the build up of electrostatic charge.
Use explosion-proof equipment.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container.
Keep containers tightly closed in a dry, cool and well-ventilated place.

Further information on storage conditions : Keep away from heat and sources of ignition.
Protect from moisture.
Keep away from direct sunlight.
Do not store at temperatures above 30 °C / 86 °F.

Advice on common storage : Incompatible with oxidizing agents.
Keep away from food and drink.

7.3 Specific end use(s)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version 2.0 GB / EN Revision Date: 20.04.2020 Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Mica	12001-26-2	TWA (Inhalable)	10 mg/m ³	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols, Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
		TWA (Respirable)	0.8 mg/m ³	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols, Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
styrene	100-42-5	TWA	100 ppm 430 mg/m ³	GB EH40
		STEL	250 ppm 1,080 mg/m ³	GB EH40
aluminium powder (stabilised)	7429-90-5	TWA (inhalable dust)	10 mg/m ³	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m ⁻³ 8-hour TWA of inhalable dust or 4 mg.m ⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit			

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version
2.0

GB / EN

Revision Date:
20.04.2020

Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

	should be used.			
		TWA (Respirable dust)	4 mg/m ³	GB EH40
Further information	<p>For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m⁻³ 8-hour TWA of inhalable dust or 4 mg.m⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.</p>			
Silicon dioxide	7631-86-9	TWA (Respirable dust)	0.1 mg/m ³	2004/37/EC
Further information	Carcinogens or mutagens			
		TWA (inhalable dust)	6 mg/m ³ (Silica)	GB EH40
Further information	<p>For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m⁻³ 8-hour TWA of inhalable dust or 4 mg.m⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.</p>			

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version
2.0

GB / EN

Revision Date:
20.04.2020

Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

		TWA (Respirable dust)	2.4 mg/m ³ (Silica)	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m ⁻³ 8-hour TWA of inhalable dust or 4 mg.m ⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
maleic anhydride	108-31-6	TWA	1 mg/m ³	GB EH40
Further information	Capable of causing occupational asthma.			
		STEL	3 mg/m ³	GB EH40
Further information	Capable of causing occupational asthma.			

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
styrene	Workers	Dermal	Long-term systemic effects, Chronic effects	406 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects, Chronic effects	85 mg/m ³
	Workers	Inhalation	Acute systemic effects, Chronic effects	289 mg/m ³
	Workers	Inhalation	Acute local effects, Short-term exposure	306 mg/m ³
	Consumers	Oral	Long-term systemic effects, Chronic effects	2.1 mg/kg bw/day
	Consumers	Dermal	Long-term systemic effects, Chronic effects	343 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects, Chronic effects	10.0 mg/m ³
	Consumers	Inhalation	Acute systemic effects, Short-term	174.25 mg/m ³

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version
2.0

GB / EN

Revision Date:
20.04.2020

Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

			exposure	
	Consumers	Inhalation	Acute local effects, Short-term exposure	182.75 mg/m3
solvent naphtha (petroleum), light arom.	Consumers	Oral	Long-term systemic effects	11 mg/kg
	Consumers	Skin contact	Long-term systemic effects	11 mg/kg
	Workers	Skin contact	Long-term systemic effects	25 mg/kg
	Consumers	Inhalation	Long-term systemic effects	32 mg/m3
	Workers	Inhalation	Long-term systemic effects	150 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
styrene	Fresh water	0.028 mg/l
	Marine water	0.014 mg/l
	Fresh water sediment	0.614 mg/kg dry weight (d.w.)
	Marine sediment	0.307 mg/kg dry weight (d.w.)
	Soil	0.2 mg/kg dry weight (d.w.)
	Sewage treatment plant	5 mg/l

8.2 Exposure controls

Personal protective equipment

Eye protection : Safety glasses with side-shields conforming to EN166

Hand protection

Material : Fluorinated rubber

Break through time : > 480 min

Glove thickness : \geq 0.4 mm

Directive : DIN EN 374

Protective index : Class 6

Remarks : Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove.
The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other.
Preventive skin protection

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version 2.0 GB / EN Revision Date: 20.04.2020 Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

- Butyl gloves are not suitable.
Nitrile gloves are not suitable.
Avoid natural rubber gloves.
- Skin and body protection : Please wear suitable protective clothing, e.g. made of cotton or heat-resistant synthetic fibres.
Long sleeved clothing
- Respiratory protection : Apply technical measures to comply with the occupational exposure limits.
If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used.
Dry sanding, flame cutting and/or welding of the cured material will give rise to dust and/or hazardous fumes.
Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust).
- Filter type : Combined particulates and organic vapour type (A-P)
- Protective measures : Ensure that eye flushing systems and safety showers are located close to the working place.
Avoid contact with the skin and the eyes.
Use only with adequate ventilation.
-

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance : paste
- Colour : silver
- Odour : characteristic
- pH : not determined
- Melting point/freezing point : not determined
- Boiling point/boiling range : 145 °C
(1,013 hPa)
Literary value styrene
- Flash point : 31 °C(1,013 hPa)
Literary value styrene
- Upper explosion limit / Upper flammability limit : 6.1 %(V)
Literary value styrene
- Lower explosion limit / Lower flammability limit : 1.1 %(V)
Literary value styrene

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version	Revision Date:	Date of last issue: 29.01.2020
2.0	20.04.2020	Date of first issue: 09.04.2019

Vapour pressure	:	6.67 hPa (20 °C) Literary value styrene
Density	:	ca. 1.4 g/cm ³ (20 °C)
Solubility(ies) Water solubility	:	0.32 g/l Literary value styrene (25 °C) insoluble
Partition coefficient: n- octanol/water	:	not determined
Ignition temperature	:	490 °C (1,013 hPa) Literary value styrene
Viscosity Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	not determined
Explosive properties	:	Not explosive In use, may form flammable/explosive vapour-air mixture.

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if used as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Avoid radical-forming starting agents, peroxides and reactive metals. Polymerisation can occur. Polymerisation is a highly exothermic reaction and may generate sufficient heat to cause thermal decomposition and/or rupture containers.
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10.4 Conditions to avoid

Conditions to avoid	:	Heat, flames and sparks. Strong sunlight for prolonged periods.
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10.5 Incompatible materials

Materials to avoid	:	Strong acids and oxidizing agents polymerisation initiators Copper Copper alloys
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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version 2.0 GB / EN Revision Date: 20.04.2020 Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

Brass

10.6 Hazardous decomposition products

Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Not classified based on available information.

Product:

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Components:

styrene:

Acute oral toxicity : LD50 Oral (Rat): 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 11.8 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 Dermal (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402

solvent naphtha (petroleum), light arom.:

Acute oral toxicity : LD50 Oral (Rat): > 6,800 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 10.2 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 Dermal (Rabbit): > 3,400 mg/kg
Method: OECD Test Guideline 402

maleic anhydride:

Acute oral toxicity : LD50 Oral (Rat): 1,090 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 4.35 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version 2.0 GB / EN Revision Date: 20.04.2020 Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

tion toxicity

Acute dermal toxicity : LD50 Dermal (Rabbit): 2,620 mg/kg

Silicon dioxide:

Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC0 (Rat): 0.139 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 Dermal (Rabbit): > 5,000 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Components:

styrene:

Species : Rabbit
Result : irritating

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

styrene:

Species : Rabbit
Result : irritating

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Components:

styrene:

Species : Guinea pig
Result : Does not cause skin sensitisation.

maleic anhydride:

Result : The product is a skin sensitizer, sub-category 1A.

Germ cell mutagenicity

Not classified based on available information.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version
2.0

GB / EN

Revision Date:
20.04.2020

Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Suspected of damaging the unborn child.

Components:

styrene:

Reproductive toxicity - Assessment : Suspected of damaging the unborn child.

STOT - single exposure

May cause respiratory irritation.

Components:

styrene:

Assessment : May cause respiratory irritation.

solvent naphtha (petroleum), light arom.:

Assessment : May cause respiratory irritation., May cause drowsiness or dizziness.

STOT - repeated exposure

Causes damage to organs (ear) through prolonged or repeated exposure if inhaled.

Components:

styrene:

Exposure routes : Inhalation
Target Organs : ear
Assessment : Causes damage to organs through prolonged or repeated exposure.

maleic anhydride:

Exposure routes : Inhalation
Target Organs : Respiratory system
Assessment : Causes damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Not classified based on available information.

Components:

styrene:

May be fatal if swallowed and enters airways.

solvent naphtha (petroleum), light arom.:

May be fatal if swallowed and enters airways.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version 2.0 GB / EN Revision Date: 20.04.2020 Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

SECTION 12: Ecological information

12.1 Toxicity

Components:

styrene:

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 4.02 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 4.7 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
- Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): 4.9 mg/l
Exposure time: 72 h
- Toxicity to microorganisms : EC50 (Natural microorganism): ca. 500 mg/l
Method: OECD Test Guideline 209
- Toxicity to fish (Chronic toxicity) : No data available:
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1,01 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

Ecotoxicology Assessment

- Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

solvent naphtha (petroleum), light arom.:

- Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 9.2 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 3.2 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
- Toxicity to algae : EL50 (Pseudokirchneriella subcapitata (green algae)): 56 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
- Toxicity to fish (Chronic toxicity) : NOELR: 2.6 mg/l
Exposure time: 14 d
Species: Pimephales promelas (fathead minnow)
Method: OECD Test Guideline 204
- Toxicity to daphnia and other : NOELR: 2.6 mg/l

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version 2.0 GB / EN Revision Date: 20.04.2020 Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

aquatic invertebrates (Chronic toxicity) : Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

maleic anhydride:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 75 mg/l
Exposure time: 96 h
Method: EPA-660/3-75-00

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 42.81 mg/l
End point: Immobilization
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 74.35 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 10 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

Ecotoxicology Assessment

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

Silicon dioxide:

Toxicity to fish : LC0 (Brachydanio rerio (zebrafish)): > 10,000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

12.2 Persistence and degradability

Components:

styrene:

Biodegradability : Biodegradation: 70.9 %
Exposure time: 28 d
Readily biodegradable.

solvent naphtha (petroleum), light arom.:

Biodegradability : Biodegradation: 74.3 %

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version 2.0 GB / EN Revision Date: 20.04.2020 Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

maleic anhydride:

Biodegradability : Biodegradation: > 90 %
Exposure time: 225 d
Method: OECD Test Guideline 301B

12.3 Bioaccumulative potential

Components:

styrene:

Partition coefficient: n-octanol/water : log Pow: 2.96 (25 °C)

solvent naphtha (petroleum), light arom.:

Bioaccumulation : Bioconcentration factor (BCF): 2,500

Partition coefficient: n-octanol/water : log Pow: > 3

maleic anhydride:

Partition coefficient: n-octanol/water : log Pow: -2.61 (20 °C)

12.4 Mobility in soil

Components:

styrene:

Distribution among environmental compartments : log Koc: 2.55

solvent naphtha (petroleum), light arom.:

Distribution among environmental compartments : Koc: < 229.2, log Koc: > 2.36

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

12.6 Other adverse effects

Product:

Additional ecological information : No data available

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version 2.0 GB / EN Revision Date: 20.04.2020 Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Product : Do not dispose of with domestic refuse.
Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
Dispose of in accordance with local regulations.
Dispose of wastes in an approved waste disposal facility.
Do not dispose of together with household waste.
Send to a licensed waste management company.
It must undergo special treatment, e.g. at suitable disposal site, to comply with local regulations.
- Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Store containers and offer for recycling of material when in accordance with the local regulations.
Packaging that is not properly emptied must be disposed of as the unused product.
Dispose of in accordance with local regulations.
- Waste Code : The following Waste Codes are only suggestions:
07 02 08, other still bottoms and reaction residues
-

SECTION 14: Transport information

14.1 UN number

- ADN : UN 1866
ADR : UN 1866
RID : UN 1866
IMDG : UN 1866
IATA : UN 1866

14.2 UN proper shipping name

- ADN : RESIN SOLUTION
ADR : RESIN SOLUTION
RID : RESIN SOLUTION
IMDG : RESIN SOLUTION
IATA : Resin solution

14.3 Transport hazard class(es)

- ADN : 3
ADR : 3
RID : 3

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version 2.0 GB / EN Revision Date: 20.04.2020 Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

IMDG : 3

IATA : 3

14.4 Packing group

ADN

Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3

ADR

Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3
Tunnel restriction code : (D/E)

RID

Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3

IMDG

Packing group : III
Labels : 3
EmS Code : F-E, S-E

IATA (Cargo)

Packing instruction (cargo aircraft) : 366
Packing instruction (LQ) : Y344
Packing group : III
Labels : Class 3 - Flammable liquids

IATA (Passenger)

Packing instruction (passenger aircraft) : 355
Packing instruction (LQ) : Y344
Packing group : III
Labels : Class 3 - Flammable liquids

14.5 Environmental hazards

ADN

Environmentally hazardous : no

ADR

Environmentally hazardous : no

RID

Environmentally hazardous : no

IMDG

Marine pollutant : no

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version	Revision Date:	Date of last issue: 29.01.2020
2.0	20.04.2020	Date of first issue: 09.04.2019

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Conditions of restriction for the following entries should be considered: Number on list 3

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

P5c FLAMMABLE LIQUIDS

Volatile organic compounds : Directive 2004/42/EC
Volatile organic compounds (VOC) content: < 250 g/l
VOC content for the product in a ready to use condition.

Other regulations:

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

15.2 Chemical safety assessment

A chemical safety assessment according to (EC) regulation 1907/2006 (REACH) has not been carried out for this product.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version 2.0 GB / EN Revision Date: 20.04.2020 Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

SECTION 16: Other information

Full text of H-Statements

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.
H361d	: Suspected of damaging the unborn child.
H372	: Causes damage to organs through prolonged or repeated exposure.
H372	: Causes damage to organs through prolonged or repeated exposure if inhaled.
H411	: Toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Asp. Tox.	: Aspiration hazard
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Flam. Liq.	: Flammable liquids
Repr.	: Reproductive toxicity
Resp. Sens.	: Respiratory sensitisation
Skin Corr.	: Skin corrosion
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
STOT RE	: Specific target organ toxicity - repeated exposure
STOT SE	: Specific target organ toxicity - single exposure
2004/37/EC	: Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
GB EH40	: UK. EH40 WEL - Workplace Exposure Limits
2004/37/EC / TWA	: Long term exposure limit
GB EH40 / TWA	: Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	: Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx -

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

VOSSCHEMIE

Carsystem Steel

Version 2.0 GB / EN Revision Date: 20.04.2020 Date of last issue: 29.01.2020
Date of first issue: 09.04.2019

Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:

Flam. Liq. 3	H226
Skin Irrit. 2	H315
Eye Irrit. 2	H319
Skin Sens. 1	H317
Repr. 2	H361d
STOT SE 3	H335
STOT RE 1	H372
Aquatic Chronic 3	H412

Classification procedure:

Based on product data or assessment
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

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