

**Formalin system 450 ml / Formalin system 450 ml, red / Formalin set**

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

**1.1. Product identifier**

Formalin system 450 ml / Formalin system 450 ml, red / Formalin set

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

**Use of the substance/mixture**

For fixation of tissue specimens.

**1.3. Details of the supplier of the safety data sheet**

**Manufacturer**

Company name: SARSTEDT AG & Co. KG  
Street: Sarstedtstraße 1  
Place: D-51588 Nümbrecht  
Post-office box: 1220  
D-51582 Nümbrecht  
Telephone: +49 (0)2293 / 305 - 0  
Telefax: +49 (0)2293 / 305 - 2470  
e-mail: info@sarstedt.com  
Contact person: Dr. Dagmar Flach  
Telephone: +49 (0)2293 / 305 - 4500  
Jochen Hoffmann  
e-mail: sicherheitsdatenblatt@sarstedt.com  
Internet: www.sarstedt.com  
Responsible Department: R & D Center

**Supplier**

Company name: SARSTEDT Ltd.  
Beaumont Leys  
Street: 68 Boston Road  
Place: GB-LE4 1AW Leicester  
Telephone: +44 (0) 116 235 9023  
Telefax: +44 (0) 116 236 6099  
e-mail: info@sarstedt.co.uk  
Internet: www.sarstedt.com

**1.4. Emergency telephone number:**

Call NHS 111 or a doctor.

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

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

Hazard categories:  
Acute toxicity: Acute Tox. 4  
Respiratory or skin sensitisation: Skin Sens. 1  
Germ cell mutagenicity: Muta. 2  
Carcinogenicity: Carc. 1B  
Hazard Statements:  
Harmful if swallowed.  
May cause an allergic skin reaction.  
Suspected of causing genetic defects.  
May cause cancer.

**2.2. Label elements**

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

**Hazard components for labelling**

Formaldehyde  
methanol

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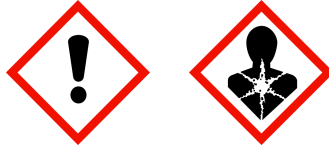
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**Signal word:** Danger

**Pictograms:**



**Hazard statements**

H302 Harmful if swallowed.  
H317 May cause an allergic skin reaction.  
H341 Suspected of causing genetic defects.  
H350 May cause cancer.

**Precautionary statements**

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P261 Avoid breathing mist/vapour/spray.  
P264 Wash hands thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves/eye protection.  
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
P330 Rinse mouth.  
P302+P352 IF ON SKIN: Wash with plenty of water.  
P321 Specific treatment (see remarks on this label).  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P405 Store locked up.  
P501 Dispose of contents/container to waste disposal site according to legal regulations.

**Special labelling of certain mixtures**

Contains formaldehyde.

**2.3. Other hazards**

There are no data available on the mixture itself.

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
50-00-0	Formaldehyde			1 - < 5 %
	200-001-8	605-001-00-5		
	Carc. 1B, Muta. 2, Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Skin Corr. 1B, Skin Sens. 1; H350 H341 H301 H311 H331 H314 H317			
67-56-1	methanol			1 - < 5 %
	200-659-6	603-001-00-X		
	Flam. Liq. 2, Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, STOT SE 1; H225 H331 H311 H301 H370 **			

Full text of H and EUH statements: see section 16.

**SECTION 4: First aid measures**

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**4.1. Description of first aid measures**

**After inhalation**

Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

**After contact with skin**

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

**After contact with eyes**

After eye contact: Rinse immediately carefully and thoroughly with eye-bath or water. Consult an ophthalmologist.

**After ingestion**

Rinse mouth immediately and drink plenty of water. Induce vomiting when the affected person is not unconscious. Medical treatment necessary.

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

There are no data available on the mixture itself.

**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**

Co-ordinate fire-fighting measures to the fire surroundings.

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

Non-flammable.

**5.3. Advice for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

**Additional information**

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.

Do not allow entering drains or surface water.

**SECTION 6: Accidental release measures**

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

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up**

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

**Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

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**Advice on protection against fire and explosion**

No special fire protection measures are necessary.

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

**Requirements for storage rooms and vessels**

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations.

**Advice on storage compatibility**

No special measures are necessary.

**7.3. Specific end use(s)**

For fixation of tissue specimens.

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

**8.1. Control parameters**

**Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
50-00-0	Formaldehyde	2	2.5		TWA (8 h)	WEL
		2	2.5		STEL (15 min)	WEL
67-56-1	Methanol	200	266		TWA (8 h)	WEL
		250	333		STEL (15 min)	WEL

**Additional advice on limit values**

Formaldehyde

CAS-No.: 50-00-0

WEL / TLV (Germany): 0,37 mg/cubic metre

(TRGS 900 - Technical guideline for the handling of hazardous materials)

Short-term occupational exposure limit value (Germany): 0,74 mg/cubic metre

(TRGS 900 - Technical guideline for the handling of hazardous materials)

**8.2. Exposure controls**



**Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin. Avoid contact with eyes.

**Protective and hygiene measures**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink. Wash hands before breaks and after work.

**Eye/face protection**

Wear eye/face protection.

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Wear suitable gloves. The quality of the protective gloves resistant to chemicals must

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be chosen as a function of the specific working place concentration and quantity of hazardous substances.

**Skin protection**

Wear suitable protective clothing.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection. Required in case of formation of vapours/aerosols.

**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

Physical state:	liquid
Colour:	colourless / red
Odour:	stinging, characteristic
pH-Value:	7,1

**Changes in the physical state**

Melting point:	not determined
Initial boiling point and boiling range:	not determined
Flash point:	not determined

**Flammability**

Solid:	not applicable
Gas:	not applicable

**Explosive properties**

No data available.

Lower explosion limits:	not determined
Upper explosion limits:	not determined

**Auto-ignition temperature**

Solid:	not applicable
Gas:	not applicable

Decomposition temperature:	not determined
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**Oxidizing properties**

Not oxidizing.

Vapour pressure:	not determined
Density (at 20 °C):	1,020 - 1,022 g/cm <sup>3</sup>
Water solubility:	completely miscible

**Solubility in other solvents**

not determined

Partition coefficient:	not determined
Vapour density:	not determined
Evaporation rate:	not determined

**9.2. Other information**

Solid content:	not determined
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There are no data available on the mixture itself.

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

There are no data available on the mixture itself.

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**10.2. Chemical stability**

There are no data available on the mixture itself.

**10.3. Possibility of hazardous reactions**

Danger of polymerization.

**10.4. Conditions to avoid**

Heat.

**10.5. Incompatible materials**

Strong oxidizing agents, acids, nitrogen oxides, hydrogenium peroxide, performic acid, strong bases.

**10.6. Hazardous decomposition products**

There are no data available on the mixture itself.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

**Acute toxicity**

Harmful if swallowed.

**ATEmix calculated**

ATE (oral) 1875,1 mg/kg

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
50-00-0	Formaldehyde				
	oral	ATE 100 mg/kg			
	dermal	ATE 300 mg/kg			
	inhalative vapour	ATE 3 mg/l			
	inhalative aerosol	ATE 0,5 mg/l			
67-56-1	methanol				
	oral	ATE 100 mg/kg			
	dermal	ATE 300 mg/kg			
	inhalative vapour	ATE 3 mg/l			
	inhalative aerosol	ATE 0,5 mg/l			

**Irritation and corrosivity**

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

**Sensitising effects**

May cause an allergic skin reaction. (Formaldehyde)

**Carcinogenic/mutagenic/toxic effects for reproduction**

Suspected of causing genetic defects. (Formaldehyde)

May cause cancer. (Formaldehyde)

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

**STOT-single exposure**

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

**STOT-repeated exposure**

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

**Aspiration hazard**

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

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**Additional information on tests**

This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP]. Special hazards arising from the substance or mixture!

**SECTION 12: Ecological information**

**12.1. Toxicity**

There are no data available on the mixture itself.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
67-56-1	methanol					
	Acute fish toxicity	LC50 mg/l	15400	96 h	Lepomis macrochirus (Bluegill)	(ECOTOX Database)
	Acute crustacea toxicity	EC50 mg/l	>10000	48 h	Daphnia magna (Big water flea)	(IUCLID)

**12.2. Persistence and degradability**

There are no data available on the mixture itself.

**12.3. Bioaccumulative potential**

There are no data available on the mixture itself.

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
67-56-1	methanol	-0,77

**12.4. Mobility in soil**

There are no data available on the mixture itself.

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

There are no data available on the mixture itself.

**12.6. Other adverse effects**

There are no data available on the mixture itself.

**Further information**

Avoid release to the environment.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Advice on disposal**

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

**Contaminated packaging**

This material and its container must be disposed of as hazardous waste. Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information**

**Land transport (ADR/RID)**

**14.1. UN number:**

No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:**

No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):**

No dangerous good in sense of this transport regulation.

**14.4. Packing group:**

No dangerous good in sense of this transport regulation.

**Inland waterways transport (ADN)**

**14.1. UN number:**

No dangerous good in sense of this transport regulation.

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**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.

**14.4. Packing group:** No dangerous good in sense of this transport regulation.

**Marine transport (IMDG)**

**14.1. UN number:** No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.

**14.4. Packing group:** No dangerous good in sense of this transport regulation.

**Air transport (ICAO-TI/IATA-DGR)**

**14.1. UN number:** No dangerous good in sense of this transport regulation.

**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.

**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.

**14.4. Packing group:** No dangerous good in sense of this transport regulation.

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

There are no data available on the mixture itself.

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

not applicable

**SECTION 15: Regulatory information**

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

**EU regulatory information**

2010/75/EU (VOC): 1,333 % (13,623 g/l)

2004/42/EC (VOC): 5,333 % (54,503 g/l)

**Additional information**

To follow: 850/2004/EC, 79/117/EEC, 689/2008/EC

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water contaminating class (D): 1 - slightly water contaminating

Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

**15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information**

**Changes**

This data sheet contains changes from the previous version in section(s): 2,3,8,9,11,14,16.

Indication of the complete legal form of the company.

**Abbreviations and acronyms**

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



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GHS: Globally Harmonized 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  
LC50: Lethal concentration, 50%  
LD50: Lethal dose, 50%

**Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]**

Classification	Classification procedure
Acute Tox. 4; H302	Calculation method
Skin Sens. 1; H317	Calculation method
Muta. 2; H341	Calculation method
Carc. 1B; H350	Calculation method

**Relevant H and EUH statements (number and full text)**

H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H331	Toxic if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H370	Causes damage to organs.

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*