

Safety Data Sheet

According to Hazardous Products Regulation (SOR/2015-17)

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SECTION 1: Identification

Product identifier

Trade name/designation:	Prefilled 10% Neutral Buffered Formalin
Product No.:	16004-119
Synonyms:	none
CAS No.:	50-00-0
Other means of identification:	

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

Recommended Use:	For Further Manufacturing Use Only
Uses advised against:	Not for Human or Animal Drug Use

Details of the supplier of the safety data sheet

Supplier

VWR International

Street	2360 Argentia Road
Postal code/City	Mississauga, Ontario
	Canada L5N 5Z7
Telephone	+1-800-932-5000 toll-free within US/Canada
Telefax:	+1-610-728-2103

Emergency phone number

Telephone

+1-613-996-6666 (Canutec, 24 hrs/day, 7 days/week, Canada)

Preparation Information

VWR International - Product Information Compliance

E-mail

SDS@avantorsciences.com

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Classification according to Hazardous Products Regulation (SOR/2015-17)

Hazard classes and hazard categories	Hazard statements
Skin irritation, category 2	H315
Serious eye damage, category 1	H318
Germ cell mutagenicity, category 2	H341
Carcinogenicity, category 1B	H350
Specific target organ toxicity (single exposure), category 1	H370
Specific target organ toxicity (repeated exposure), category 2	H373
Skin sensitization, category 1	H317

2.2 Label elements

Labelling in accordance with (SOR/2015-17)

Hazard pictograms



Signal word: Danger

Hazard statements	
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H370	Causes damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary statements	
P201	Obtain special instructions before use.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water/...
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+P310	IF exposed or concerned: Immediately call a POISON CENTER/doctor.

Hazards not otherwise classified (HNOC)

none

SECTION 3: Composition / information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

Hazardous ingredients GHS Classification in accordance with (SOR/2015-17)

Substance name	Concentration	Identifier	Hazard classes and hazard categories
Formaldehyde	3.5 - 5%	CAS No.: 50-00-0	Skin Corr. 1B - H314 Muta. 2 - H341 Carc. 1B - H350 STOT SE 3 - H335 Acute Tox. 3 - H301+H311+H331 Skin Sens. 1 - H317
Methanol	< 1.5%	CAS No.: 67-56-1	Flam. Liq. 2 - H225 Acute Tox. 3 - H301 Eye Irrit. 2 - H319 Repr. 1B - H360 STOT SE 2 - H371 STOT SE 3 - H336

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician. If unconscious but breathing normally, place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

In case of inhalation

Call a POISON CENTER/doctor. Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. In case of skin reactions, consult a physician.

After eye contact:

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

In case of ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting. Give nothing to eat or drink.

Self-protection of the first aider

First aider: Pay attention to self-protection!

4.2 Most important symptoms/effects, acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Fire fighting measures**5.1 Extinguishing media****Suitable extinguishing media**

The product itself does not burn.

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

Extinguishing media which must not be used for safety reasons

no restriction

5.2 Specific hazards arising from the chemical

In case of fire may be liberated:

Carbon monoxide

Carbon dioxide (CO₂)

5.3 Advice for firefighters

DO NOT fight fire when fire reaches explosives.

Protective equipment and precautions for firefighters:

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

Additional information

Do not allow run-off from fire-fighting to enter drains or water courses.

Do not inhale explosion and combustion gases.

Use water spray/stream to protect personnel and to cool endangered containers.

In case of fire: Evacuate area.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Do not breathe gas/vapor/spray. Provide adequate ventilation. Use personal protection equipment. In case of major fire and large quantities: Remove persons to safety. Wear a self-contained breathing apparatus and chemical protective clothing.

6.2 Environmental precautions

Do not allow to enter into surface water or drains. Make sure spills can be contained, e.g. in sump pallets or kerbed areas. Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Clean contaminated articles and floor according to the environmental legislation. Collect in closed and suitable containers for disposal.

6.4 Additional information

Clear spills immediately.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid:

Inhalation

Avoid contact with eyes and skin.

Use extractor hood (laboratory).

If handled uncovered, arrangements with local exhaust ventilation have to be used.

If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means.

Protect from moisture.

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

7.2 Conditions for safe storage, including any incompatibilities

Recommended storage temperature: 15-25 °C

Keep container tightly closed and in a well-ventilated place.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredient (Designation)	Regulatory information	Country	Limit value type (country of origin)	Limit value
Formaldehyde	CNESST	CA	VECD	3 (1) mg/m ³ - 2 (1) ppm
Methanol	CNESST	CA	VECD	328 mg/m ³ - 250 ppm
Methanol	CNESST	CA	VEMP	262 mg/m ³ - 200 ppm

8.2 Engineering controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Personal protection equipment (PPE)

Wear suitable protective clothing. When handling with chemical substances, protective clothing must be worn.

Eye/face protection

Eye glasses with side protection

Skin protection

Wear suitable gloves. When handling with chemical substances, protective gloves must be worn. In the case of wanting to use the gloves again, clean them before taking off and air them well. Check leak tightness/impermeability prior to use.

By short-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,12 mm
Breakthrough time:	240-480 min

By long-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,38 mm
Breakthrough time:	-

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

Additional information

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

Environmental exposure controls

no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

(a) Appearance	
Physical state:	liquid
Color:	colorless
(b) Odor:	no data available
(c) Odor threshold:	no data available

Safety relevant basic data

(d) pH:	6.8 - 7.2 (20 °C)
(e) Melting point/freezing point:	no data available
(f) Initial boiling point and boiling range:	no data available
(g) Flash point:	no data available
(h) Evaporation rate:	no data available
(i) Flammability (solid, gas):	not applicable
(j) Flammability or explosive limits	
Lower explosion limit:	no data available
Upper explosion limit:	no data available
(k) Vapor pressure:	no data available
(l) Vapor density:	no data available
(m) Density:	1.013 g/cm ³ (20 °C)
(n) Solubility(ies)	
Water solubility:	no data available
(o) Partition coefficient: n-octanol/water:	no data available
(p) Auto-ignition temperature:	no data available
(q) Decomposition temperature:	not applicable
(r) Viscosity	
Kinematic viscosity:	no data available
Dynamic viscosity:	no data available
(s) Explosive properties:	not applicable
(t) Oxidising properties:	not applicable
(u) Particle characteristics:	does not apply to liquids

9.2 Other information

Bulk density:	no data available
Refraction index:	no data available
Dissociation constant:	no data available
Surface tension:	no data available
Henry's Law Constant:	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Vapors may form explosive mixtures with air.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Formation of explosive mixtures with:

Oxidising agent

Nitrogen oxides (NO_x)

Material, oxygen-rich, Oxidizing

Nitric acid

Chlorine

Bromine

Exothermic reaction with:

Reducing agent

Acid

Acid halides

Alkali (lye), concentrated

Violent reaction with:

Alkali metals

Alkaline earth metal

Formation of:

Hydrogen

10.4 Conditions to avoid

UV-radiation/sunlight

Heat

This material is combustible and can be ignited by heat, sparks, flames, or other sources of ignition (e.g. static electricity, pilot lights, or mechanical/electrical equipment).

10.5 Incompatible materials

light metals

Plastic articles

10.6 Hazardous decomposition products

no data available

10.7 Additional information

Slowly corrodes aluminium and zinc under hydrogen evolution.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute effects

Acute oral toxicity:

Formaldehyde - LD50: > 100 mg/kg - Rat - (CHP)

Formaldehyde - LD50: 640 mg/kg - Rat - (OECD 401)

Methanol - LDLo: > 143 mg/kg - Human - (RTECS)

Methanol - LD50: 1187 - 2769 mg/kg - Rat - (IUCLID)

Methanol - LD50: 1187 - 2769 mg/kg - Rat - (OECD 401)

Acute dermal toxicity:

Formaldehyde - LD50: > 270 mg/kg - Rabbit - (CHP)

Methanol - LD50: > 15800 mg/kg - Rabbit

Methanol - LD50: 17100 mg/kg - Rabbit - (ECHA)

Acute inhalation toxicity:

Formaldehyde - LC50: > 0.578 mg/l (4 h) - Rat - (CHP)

Formaldehyde - LC50: < 463 ppm (4 h) - Rat - (ECHA)

Methanol - TCLo: > 160 ppm (4 h) - Human

Methanol - LD50: 43700 mg/m³ (6 h) - Cat - (J Appl Toxicol 14(4): 309-313)

Irritant and corrosive effects

Primary irritation to the skin:

Causes skin irritation.

Irritation to eyes:

Causes serious eye damage.

Irritation to respiratory tract:

not applicable

Respiratory or skin sensitization

In case of skin contact: sensitizing

In case of inhalation: not sensitizing

STOT-single exposure

Causes damage to organs.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

May cause cancer.

Germ cell mutagenicity

Suspected of causing genetic defects.

Reproductive toxicity

No indications of human reproductive toxicity exist.

Aspiration hazard

not applicable

Other adverse effects

no data available

Additional information

no data available

SECTION 12: Ecological information**12.1 Ecotoxicity****Fish toxicity:**

Formaldehyde - LC50: 52.5 mg/l (96 h)

Methanol - LC50: 24000 mg/l (96 h) - Poirier, S.H., M.L. Knuth, C.D. Anderson-Buchou, L.T. Brooke, A.R. Lima, and P.J. Shubat 1986. Comparative Toxicity of Methanol and N,N-Dimethylformamide to Freshwater Fish and Invertebrates. Bull.Environ.Contam.Toxicol. 37(4):615-621

Daphnia toxicity:

Formaldehyde - LC50: 1070 mg/l (48 h)

Formaldehyde - EC50: 14 mg/l (48 h)

Methanol - LC50: 3290 mg/l (48 h) - Guilhermino, L., T. Diamantino, M.C. Silva, and A.M.V.M. Soares 2000. Acute Toxicity Test with Daphnia magna: An Alternative to Mammals in the Prescreening of Chemical Toxicity?. Ecotoxicol.Environ.Saf. 46(3):357-362

Methanol - EC50: 24500 mg/l (48 h) - Randall, T.L., and P.V. Knopp 1980. Detoxification of Specific Organic Substances by Wet Oxidation. J.Water Pollut.Control Fed. 52(8):2117-2130

Algae toxicity:

Methanol - EC50: 22 000 mg/l (96 h) Pseudokirchneriella subcapitata - IUCLID

Bacteria toxicity:

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water: no data available

12.4 Mobility in soil:

no data available

12.5 Results of PBT/vPvB assessment

not applicable

12.6 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Appropriate disposal / Product

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal.

Waste code product: no data available

Appropriate disposal / Package

Dispose according to legislation. Handle contaminated packages in the same way as the substance itself.

Additional information

no data available

SECTION 14: Transport information

Land transport (TDG)

No dangerous good in sense of this transport regulation.

Sea transport (IMDG)

No dangerous good in sense of this transport regulation.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not relevant

Air transport (ICAO-TI / IATA-DGR)

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

Domestic Substance List:

SECTION 16: Other information

Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygienists
DOT - Department of Transportation
IARC - International Agency for Research on Cancer
IATA-DGR - International Air Transport Association-Dangerous Goods Regulations
ICAO-TI - International Civil Aviation Organization-Technical Instructions
IMDG - International Maritime Code for Dangerous Goods
LTV - Long Term Value
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OSHA - Occupational Safety & Health Administration
PBT - Persistent, Bioaccumulative and Toxic
PEL - Permissible Exposure Limit
STV - Short Term Value
SVHC - Substances of Very High Concern
TDG - Transport of Dangerous Goods
TLV - Threshold Limit Value
vPvB - very Persistent, very Bioaccumulative

Key literature references and sources for data

This Safety Data Sheet has been prepared based on information available for public as TOXNET information, European Chemicals Agency (ECHA) substance dossier, papers from international cancer research institutes (IARC Monographs), U.S. National Toxicology Program data, U.S. Agency for Toxic Substances and Disease Control (ATSDR), PubChem websites and SDS from our raw material manufacturers.

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22.08.2022	1.1	22.08.2022

Additional information

Indication of changes Section 8: Update of DNEL and/or PNEC data

If you need an explanation of the change, contact the supplier (SDS@avantorsciences.com).

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guidance. The information in this document is based on the present state knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VWR International and his Affiliates shall not be held liable for any damage resulting from handling.