



SAFETY DATA SHEET

according to the Global Harmonized System (and with all of the information required by the CPR)

Revision Date 12/10/2014

Version 1.1

SECTION 1. Identification

Product identifier

Product number	R04586
Product name	Formalin 10% W/V, Neutral Buffered

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

Identified uses	Reagent for analysis
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Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation 290 Concord Road, Billerica, MA 01821, United States of America General Inquiries: +1-978-715-4321 Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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SECTION 2. Hazards identification

GHS Classification

Skin sensitization, Category 1, H317
Carcinogenicity, Category 2, H351

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms



Signal Word
Warning

Hazard Statements

H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.

Precautionary Statements

P280 Wear protective gloves.

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P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Hazardous ingredients

Chemical Name (Concentration)

CAS-No.

formaldehyde (>= 1 % - < 5 %)

50-00-0

Exact percentages are being withheld as a trade secret.

methanol (>= 1 % - < 5 %)

67-56-1

Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

Inhalation

After inhalation: fresh air. Call in physician.

Skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

Eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

Ingestion

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

irritant effects, Allergic reactions

Risk of serious damage to eyes.

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Water, Foam, Carbon dioxide (CO₂), Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

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Special hazards arising from the substance or mixture

Mixture with combustible ingredients.

Development of hazardous combustion gases or vapors possible in the event of fire.

Advice for firefighters

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols.

Conditions for safe storage, including any incompatibilities

Tightly closed.

Store at room temperature.

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SECTION 8. Exposure controls/personal protection**Exposure limit(s)***Ingredients*

Basis	Value	Threshold limits	Remarks
<i>formaldehyde 50-00-0</i>			
CAD AB OEL	Time Weighted Average (TWA):	0.75 ppm 0.9 mg/m ³	
	Ceiling Limit Value:	1 ppm 1.3 mg/m ³	
CAD BC OEL	Ceiling Limit Value:	1 ppm	
	Time Weighted Average (TWA):	0.3 ppm	
CAD MB OEL	Ceiling Limit Value:	0.3 ppm	
CAD ON OEL	Short Term Exposure Limit (STEV):	1 ppm	
	Ceiling Limit Value (CEV):	1.5 ppm	
OEL (QUE)	Ceiling Limit Value:	2 ppm 3 mg/m ³	Exposure must be minimized.
			Recirculation prohibited

methanol 67-56-1

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CAD AB OEL	Time Weighted Average (TWA):	200 ppm 262 mg/m ³	
	Short Term Exposure Limit (STEL):	250 ppm 328 mg/m ³	
	Skin designation:		Can be absorbed through the skin.
CAD BC OEL	Short Term Exposure Limit (STEL):	250 ppm	
	Skin designation:		Can be absorbed through the skin.
CAD MB OEL	Time Weighted Average (TWA):	200 ppm	
	Time Weighted Average (TWA):	200 ppm	
	Short Term Exposure Limit (STEL):	250 ppm	
	Skin designation:		Can be absorbed through the skin.
CAD ON OEL	Time Weighted Average (TWA):	200 ppm	
	Short Term Exposure Limit (STEL):	250 ppm	
	Skin designation:		Can be absorbed through the skin.
	Skin designation:		Can be absorbed through the skin.
OEL (QUE)	Time Weighted Average (TWA):	200 ppm 262 mg/m ³	
	Short Term Exposure Limit (STEL):	250 ppm 328 mg/m ³	
	Skin designation:		Can be absorbed through the skin.

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

Eye/face protection

Safety glasses

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:

protective clothing

Respiratory protection

required when vapors/aerosols are generated.

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Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. Physical and chemical properties

Physical state	liquid
Color	colorless
Odor	No strong odor known.
Odor Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	No information available.
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

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SECTION 10. Stability and reactivity

Reactivity

See below

Chemical stability

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

Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

Conditions to avoid

no information available

Incompatible materials

no information available

Hazardous decomposition products

no information available

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Eye contact, Skin contact

Acute oral toxicity

Acute toxicity estimate: > 2,000 mg/kg

Calculation method

Acute inhalation toxicity

Acute toxicity estimate: > 20 mg/l; 4 h

Calculation method

Symptoms: Possible damages:, mucosal irritations

Acute dermal toxicity

Acute toxicity estimate : > 2,000 mg/kg

Calculation method

Skin irritation

Mixture causes skin irritation.

Eye irritation

Mixture causes serious eye damage.

Sensitization

Mixture may cause an allergic skin reaction.

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CMR effects

Carcinogenicity:

Evidence of a carcinogenic effect.

Specific target organ systemic toxicity - single exposure

Target Organs: Eyes

Mixture may cause damage to organs.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC

Group 1: Carcinogenic to humans

formaldehyde

50-00-0

OSHA

formaldehyde

50-00-0

NTP

Anticipated carcinogen.

formaldehyde

50-00-0

ACGIH

A2: Suspected human carcinogen

formaldehyde

50-00-0

Further information

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Ingredients

formaldehyde

Acute oral toxicity

LD50 Rat: 100 mg/kg (Lit.)

Acute inhalation toxicity

Acute toxicity estimate: 3.1 mg/l; vapor

Expert judgment

Acute dermal toxicity

Acute toxicity estimate : 300.1 mg/kg

Expert judgment

methanol

Acute oral toxicity

LDLO human: 143 mg/kg (RTECS)

LD50 Rat: 5,628 mg/kg (IUCLID)

Acute inhalation toxicity

LC50 Rat: 85.26 mg/l; 4 h (IUCLID)

Acute dermal toxicity

LD50 Rabbit: ca. 17,100 mg/kg (External MSDS)

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Sensitization

Sensitization test: Guinea pig

Result: negative

(IUCLID)

Germ cell mutagenicity

Genotoxicity in vivo

Micronucleus test

Result: negative

(IUCLID)

Genotoxicity in vitro

Ames test

Result: negative

(IUCLID)

SECTION 12. Ecological information

Ecotoxicity

No information available.

Persistence and degradability

No information available.

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Ingredients

formaldehyde

Partition coefficient: n-octanol/water

log Pow: 0.021

(Lit.) Bioaccumulation is not expected.

methanol

Toxicity to fish

LC50 *Lepomis macrochirus* (Bluegill sunfish): 15,400 mg/l; 96 h (in soft water) (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates

EC50 *E.sulcatum*: > 10,000 mg/l; 72 h (Lit.)

EC50 *Daphnia magna* (Water flea): > 10,000 mg/l; 48 h (IUCLID)

Toxicity to algae

EC50 *Pseudokirchneriella subcapitata* (green algae): ca. 22,000 mg/l; 96 h (External MSDS)

IC50 *Scenedesmus quadricauda* (Green algae): 8,000 mg/l; 8 d (IUCLID)

Toxicity to bacteria

EC50 *Pseudomonas fluorescens*: 6,600 mg/l; 16 h (IUCLID)

Toxicity to fish (Chronic toxicity)

NOEC *Oryzias latipes* (Orange-red killifish): 7,900 mg/l; 200 h
(External MSDS)

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Biodegradability

99 %; 30 d

OECD Test Guideline 301D

Readily biodegradable.

Biochemical Oxygen Demand (BOD)

600 - 1,120 mg/g (5 d)

(IUCLID)

Chemical Oxygen Demand (COD)

1,420 mg/g

(IUCLID)

Theoretical oxygen demand (ThOD)

1,500 mg/g

(Lit.)

Ratio BOD/ThBOD

BOD5 76 %

Closed Bottle test

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

Stability in water

2.2 yr

reaction with hydroxyl radicals (IUCLID)

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

Not classified as dangerous in the meaning of transport regulations.

Air transport (IATA)

Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. Regulatory information

United States of America

Canada

WHMIS Classification

D1B

Toxic Material Causing Immediate and Serious Toxic Effects

D2A

Very Toxic Material Causing Other Toxic Effects

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D2B Toxic Material Causing Other Toxic Effects

E Corrosive Material

Toxic by ingestion, Toxic by skin absorption, Toxic by inhalation., Carcinogen, Skin sensitizer,
Corrosive to skin, Corrosive to eyes, Corrosive by inhalation.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Notification status

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL.

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Revision Date 12/10/2014

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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