

Safety Data Sheet

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

Identification of the substance or mixture

Product code 28908
Product name 16% Formaldehyde Solution

Company/undertaking identification

Life Technologies Corporation
5781 Van Allen Way
PO Box 6482
Carlsbad, CA 92008
+1 760 603 7200

Life Technologies
5250 Mainway Drive
Burlington, ONT
CANADA L7L 6A4
800/263-6236

Thermo Fisher Scientific
Pierce Biotechnology
P.O. Box 117
Rockford, IL 61105
United States
1.815.968.0747 or
1.800.874.3723

24 hour Emergency Response for Hazardous Materials Within the USA + Canada: 1-800-424-9300 and
[or Dangerous Goods] Incident. Spill, Leak, Fire, 1-703-527-3887
Exposure, or Accident. Call CHEMTREC Outside the USA + Canada: 1-703-741-5970

Country Specific Emergency Number (if available):

For research use only. Not for use in diagnostic procedures

SECTION 2: Hazards identification

GHS Classification

Signal Word
DANGER

Hazard pictograms



Health hazards

Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Acute inhalation toxicity - vapor	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Specific target organ toxicity (STOT) – single exposure	Category 3
Carcinogenicity	Category 1B
Germ cell mutagenicity	Mutagenic category 2

Physical hazards

Not Hazardous

Environmental hazards

Not Hazardous

Hazard Statements

H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H317 - May cause an allergic skin reaction

H335 - May cause respiratory irritation

H341 - Suspected of causing genetic defects

H350 - May cause cancer

Precautionary Statements

Prevention

P264 - Wash hands thoroughly after handling

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

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P201 - Obtain special instructions before use

P270 - Do not eat, drink or smoke when using this product

P271 - Use only outdoors or in a well-ventilated area

P272 - Contaminated work clothing should not be allowed out of the workplace

P202 - Do not handle until all safety precautions have been read and understood

Response

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

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

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

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

P330 - Rinse mouth

P312 - Call a POISON CENTER or doctor/physician if you feel unwell

P332 + P313 - If skin irritation occurs: Get medical advice/attention

Storage

P403 + P235 - Store in a well-ventilated place. Keep cool

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Other hazards

Not Applicable

HMIS

Health	4 *
Flammability	0
Reactivity	0

SECTION 3: Composition/information on ingredients

Chemical Name	CAS No.	Common name	EC No.	Weight-%
Formaldehyde	50-00-0	Not applicable	200-001-8	10-20

We recommend handling all chemicals with caution.

SECTION 4: First aid measures**Description of first aid measures**

Skin contact	Rinse skin with water. Remove and wash contaminated clothing and gloves, including the inside, before re-use.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Ingestion	Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Call a physician or poison control center immediately.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If symptoms persist, call a physician.
Notes to Physician	Treat symptomatically.

Most important symptoms and effects, both acute and delayed

H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled H315 - Causes skin irritation H319 - Causes serious eye irritation H317 - May cause an allergic skin reaction H335 - May cause respiratory irritation H341 - Suspected of causing genetic defects H350 - May cause cancer

Indication of any immediate medical attention and special treatment needed

If skin irritation or rash occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF exposed or concerned: Get medical advice/attention.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable extinguishing media

No information available.

Special hazards arising from the substance or mixture No data

Hazardous Combustion Products

None under normal use conditions.

Advice for firefighters

Standard procedure for chemical fires.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Always wear recommended Personal Protective Equipment

Use personal protection equipment

Avoid contact with skin, eyes or clothing

Avoid exposure to vapor

See section 8 for more information

Environmental precautions

No special environmental precautions required. Avoid discharge into drains and waterways whenever possible.

Methods and material for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

SECTION 7: Handling and storage

Precautions for safe handling

Always wear recommended Personal Protective Equipment. Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. See section 8 for more information.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers. Store in accordance with local regulations.

Specific end use(s)

For research use only.

SECTION 8: Exposure controls/personal protection

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Control parameters

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Formaldehyde	0.75 ppm	None	0.1 ppm	0.3 ppm

Chemical Name	Brazil - OEL - TWAs (LTs)	Brazil - OEL - Ceilings	Brazil - OEL - Skin Designations
Formaldehyde	0.1 ppm	1.6 ppm 2.3 mg/m ³	None

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal Protective Equipment

Respiratory protection In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

Hand protection Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection Tight sealing safety goggles.

Skin and Body Protection Wear suitable protective clothing.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls

No special environmental precautions required. Avoid discharge into drains and waterways whenever possible.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	liquid	
Color	No data	
Odor	No data	
Molecular Weight	No data	
Melting point / melting range	°C No data	°F No data
Boiling point / boiling range	°C No data	°F No data
Flammability (solid, gas)	No data	
Lower explosion limit	No data	
Upper explosion limit	No data	
Flash point	°C No data	°F No data
Autoignition Temperature	°C No data	°F No data
Decomposition temperature	°C No data	°F No data
Evaporation rate	No data	
Viscosity	No data	
Solubility	No data	
Partition coefficient: n-octanol/water	No data	
Vapor Pressure	No data	
Specific gravity	No data	
Relative density	No data	
Vapor density	No data	
Explosive properties	No data	
Oxidizing properties	No data	
Particle characteristics	No data	

Other information

Information with regard to physical hazard classes

No information available

Other safety characteristics

No information available

SECTION 10: Stability and reactivity

Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Hazardous reaction has not been reported.
Conditions to avoid	Proximity to sources of ignition.
Incompatible materials	No dangerous reaction known under conditions of normal use.
Hazardous decomposition products	None under normal use conditions.

SECTION 11: Toxicological information

Information on toxicological effects

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Formaldehyde	= 100 mg/kg (Rat)	> 2000 mg/kg(Rat)	<463ppm(Rat)

Principal Routes of Exposure

Acute toxicity May be harmful if swallowed, inhaled, or absorbed through skin.

Skin corrosion/irritation Skin irritation

Serious eye damage/irritation Irritating to eyes

Respiratory or skin sensitization May cause sensitization by skin contact

Specific target organ toxicity (STOT) – single exposure May cause respiratory irritation

Specific target organ toxicity (STOT) – repeated exposure Data are conclusive but insufficient for classification

Carcinogenicity Contains a known or suspected carcinogen

Germ cell mutagenicity Product is or contains a chemical which may cause mutations in the germ cells of humans.

Reproductive toxicity Data are conclusive but insufficient for classification

Aspiration hazard Data are conclusive but insufficient for classification

SECTION 12: Ecological information

Toxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Microtox Data	log Pow
Formaldehyde	No data available	Daphnia magna EC50 11.3 - 18 mg/L (48 h) Daphnia magna LC50=2 mg/L (48 h)	No data available	No data available	logPow0.35

Mobility in soil No information available.

Persistence and degradability No information available.

Bioaccumulative potential No information available.

Results of PBT and vPvB assessment

No information available.

Other adverse effects No information available.

SECTION 13: Disposal considerations

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in accordance with approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

SECTION 14: Transport information

IATA / ADR / DOT-US / IMDG

Classified as dangerous in the meaning of transport regulations

UN number or ID number	3334
UN proper shipping name	Aviation Regulated Liquids, n.o.s. (formaldehyde, solution)
Transport hazard class(es)	9
Packing group	III

Environmental hazards

Not Applicable

Special precautions for user

Not Applicable

Maritime transport in bulk according to IMO instruments

Not Applicable.

SECTION 15: Regulatory information

Component	US TSCA
Formaldehyde 50-00-0 (10-20)	Listed

US Federal Regulations

SARA 313

This product contains the following toxic chemical(s) subject to the notification requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. This law requires certain manufacturers to report on annual emissions of specified chemicals and chemical categories. Please note that if you repackage, or otherwise redistribute, this product to industrial customers, a notice similar to this one should be sent to those customers.

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Weight-%</u>	<u>SARA 313 - Threshold Values</u>
Formaldehyde	50-00-0	10-20	0.1

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following HAPs

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Component
Formaldehyde
50-00-0 (10-20)

CAS No.
50-00-0

Weight-%
10-20

HAPS data
Present

US State Regulations

Chemical Name	Massachusetts - RTK (Right-to-Know)	New Jersey - RTK (Right-to-Know)	Pennsylvania - RTK (Right-to-Know)
Formaldehyde	Listed	Listed	Listed

California Proposition 65

This product contains the following Proposition 65 chemicals:.

Chemical Name	CAS No.	Weight-%	Category
Formaldehyde	50-00-0	10-20	Carcinogen

WHMIS Hazard Class

D1B - Toxic materials

D2A - Very toxic materials

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

National Regulations - Brazil

Chemical Name	CAS No.	Brazil - National Agency for Sanitary Surveillance (ANVISA)	Brazil - National List of Carcinogen Agents to Humans (LINACH)
Formaldehyde	50-00-0	Not Listed	Group 1

SECTION 16: Other information

Reason for revision	SDS sections updated.
Revision number	9
Revision date	30-Aug-2024

For research use only. Not for use in diagnostic procedures.

References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

Abbreviations and acronyms

TWA - Time-Weighted Average

OELs - Occupational Exposure Limits

STEL - Short Term Exposure Limit

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

KECL - Korean Existing and Evaluated Chemical Substances

ENCS - Japan Existing and New Chemical Substances

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IECSC - China Inventory of Existing Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
CEPA - Canadian Environmental Protection Act
EPA - Environmental Protection Agency
OSHA - Occupational Safety and Health Administration of the US Department of Labor
IATA - International Air Transport Association
DOT - Department of Transportation
IMDG - International Maritime Dangerous Goods
ACGIH - American Conference of Governmental Industrial Hygienists
NIOSH - National Institute for Occupational Safety and Health
AIHA - American Industrial Hygiene Association
HMIS - Department of Defense Hazardous Materials Information System
NTP - National Toxicology Program
IARC - International Agency for Research on Cancer

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

End of Safety Data Sheet