



Safety Data Sheet (SDS) According to the OSHA Hazard Communication Standard 29 CFR 1910.1200

Issuing Date: 2014-04-02

Revision Date: 2024-09-24

Version: 4

SECTION 1. Identification

Product identifier

Product No 12606
Product name 16% Formaldehyde, Methanol-Free
UN number UN3334

Recommended use of the chemical and restrictions on use

Identified uses For Research Use Only. Not for Use in Diagnostic Procedures.

Manufacturer, importer, supplier

Manufacturer address Cell Signaling Technology, Inc.
3 Trask Lane
Danvers, MA 01923
United States
TEL: +1 978 867 2300
FAX: +1 978 867 2400
Website www.cellsignal.com
Email address support@cellsignal.com
Emergency telephone number In case of emergency call CHEMTREC 1-800-424-9300

SECTION 2. Hazard(s) identification

Classification

This substance/mixture is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

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

GHS Label elements, including precautionary statements

**Signal Word**

Danger

Hazard statement(s)

Toxic if inhaled.
Harmful if swallowed.
Harmful in contact with skin.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
Suspected of causing genetic defects.
May cause cancer.

Precautionary Statement(s)

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wash face, hands and any exposed skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
IF exposed or concerned: Get medical advice/attention
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
IF ON SKIN: Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container to an approved waste disposal plant.

Supplementary Hazard Information**Hazards not otherwise classified (HNOC)**

Not applicable.

Unknown Acute Toxicity 0% of the mixture consists of ingredient(s) of unknown acute toxicity**SECTION 3. Composition/information on ingredients**

Chemical name	CAS No	Weight-%
formaldehyde (non-stabilised)	50-00-0	10-30

SECTION 4. First-aid measures

Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately if irritation persists.
Skin contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.
Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur. If not breathing, give artificial respiration.
Ingestion	Clean mouth with water and afterwards drink plenty of water. Do not induce vomiting without medical advice. Immediate medical attention is required.

Most important symptoms and effects, both acute and delayed

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Significant esophageal or gastrointestinal tract irritation or burns may occur following ingestion. Irritating to eyes, respiratory system and skin. Repeated inhalation of vapors may cause irritation of respiratory tract or bronchitis. May cause an allergic skin reaction including itching, redness, and rash. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Inhalation of vapors may cause shortness of breath, tightness of the chest, a sore throat and cough.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Advice for emergency responders

General advice	For further assistance, contact your local Poison Control Center.
Protection of first-aiders	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable Extinguishing Media	Dry chemical Carbon dioxide (CO ₂) Alcohol-resistant foam Water spray or fog
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Specific hazards arising from the chemical

Thermal decomposition can lead to release of toxic and corrosive gases/vapors.

Hazardous Combustion Products	Formic acid.
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Explosion Data

Sensitivity to Mechanical Impact	None
Sensitivity to Static Discharge	None

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Ensure adequate ventilation. Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.
Other information	No information available.

Environmental precautions

Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. See Section 12 for additional information.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Use personal protective equipment. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

SECTION 7. Handling and storage

Precautions for safe handling

Handle product only in closed system or provide appropriate exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wear personal protective equipment. Remove and wash contaminated clothing before re-use.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions	Keep containers tightly closed in a dry, cool and well-ventilated place.
Packaging material	No information available
Incompatible products	Strong oxidizing agents, Acids, Inorganic acids, Isocyanates, Alkali, Phenols, Urea

SECTION 8. Exposure controls/personal protection

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH REL
formaldehyde (non-stabilised)	STEL: 0.3 ppm TWA: 0.1 ppm	TWA : 0.75 ppm STEL: 2 ppm	IDLH : 20 ppm TWA : 0.016 ppm Ceiling: 0.1 ppm

Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

Eye/face protection	Tightly fitting safety goggles / Face-shield
Skin and body protection	Wear protective gloves/clothing.
Respiratory protection	Handle in an enclosing hood with exhaust ventilation. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or

smoke when using this product. Keep away from food, drink and animal feeding stuffs. Wash thoroughly after handling. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Provide regular cleaning of equipment, work area and clothing.

SECTION 9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Color	Colorless / Light yellow
Odor	Pungent, Characteristic
Odor Threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks Method</u>
pH	5.4	@ 20 °C
Melting point/freezing point	No information available	
Boiling point or initial boiling point and boiling range	98 °C / 208.4 °F	Formaldehyde, 37% (Non-stabilized)
Flash point	85 °C / 185 °F	Formaldehyde, 37% (Non-stabilized)
Evaporation rate	No information available	
Flammability	No information available	
Lower explosion limit	7%	
Upper explosion limit	73%	
Vapor pressure	No information available	
Relative vapor density	No information available	
Density and/or relative density	No information available	
Solubility	No information available.	
Solubility in other solvents	No information available.	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Viscosity	No information available	
Viscosity, dynamic	No information available	

Other information

Softening point	No information available
Molecular Weight	No information available
VOC content	No information available
Liquid Density	No information available
Bulk density	No information available

SECTION 10. Stability and reactivity

Reactivity

No information available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Hazardous reactions	None under normal processing.
Hazardous polymerization	Polymerization can occur.

Conditions to Avoid

No information available

Incompatible Materials

Strong oxidizing agents, Acids, Inorganic acids, Isocyanates, Alkali, Phenols, Urea

Hazardous Decomposition Products

None known based on information supplied

SECTION 11. Toxicological information**Information on likely routes of exposure**

Inhalation	Inhalation of vapors may cause shortness of breath, tightness of the chest, a sore throat and cough. Repeated inhalation of vapors may cause irritation of respiratory tract or bronchitis.
Eye contact	Vapor may cause irritation. Contact with eyes may cause irritation. May cause redness, itching, and pain. May cause redness and tearing of the eyes.
Skin contact	May cause sensitization by skin contact. Harmful in contact with skin. May cause skin irritation and/or dermatitis. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Ingestion	Causes severe irritation. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause irritation of the mouth, throat and stomach.

Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
formaldehyde (non-stabilised)	= 100 mg/kg (Rat)	> 2000 mg/kg (Rat)	< 463 ppm (Rat) 4 h

Unknown Acute Toxicity 0% of the mixture consists of ingredient(s) of unknown acute toxicity.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Symptoms	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Significant esophageal or gastrointestinal tract irritation or burns may occur following ingestion. Irritating to eyes, respiratory system and skin. Repeated inhalation of vapors may cause irritation of respiratory tract or bronchitis. May cause an allergic skin reaction including itching, redness, and rash. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Inhalation of vapors may cause shortness of breath, tightness of the chest, a sore throat and cough.
Skin corrosion/irritation	Irritating to skin.
Serious eye damage/eye irritation	Irritating to eyes.
Sensitization	May cause sensitization of susceptible persons.
Mutagenic effects	Contains a known or suspected mutagen. Genotoxic in some animal in vitro and in vivo studies.
Carcinogenicity	Contains a known or suspected carcinogen.

The table below indicates whether each agency has listed any ingredient as a carcinogen:

Chemical name	IARC	NTP	OSHA
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formaldehyde (non-stabilised) 50-00-0	Group 1	Known	X
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Legend:IARC: (International Agency for Research on Cancer) *Group 1 - Carcinogenic to Humans*NTP: (National Toxicity Program) *Known - Known Carcinogen*OSHA: (Occupational Safety & Health Administration) *X - Present***Reproductive toxicity**

Contains material that may cause adverse reproductive effects.

STOT - single exposure

May cause disorder and damage to the: Respiratory system.

STOT - repeated exposure

No information available.

Neurological effects

No information available.

Aspiration Hazard

No information available.

SECTION 12. Ecological information

Ecotoxicity

0% of the mixture consists of components of unknown hazards to the aquatic environment.

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
formaldehyde (non-stabilised)	-	LC50 22.6 - 25.7 mg/L (Pimephales promelas) 96 h LC50 1510 µg/L (Lepomis macrochirus) 96 h LC50 41 mg/L (Brachydanio rerio) 96 h LC50 0.032 - 0.226 mL/L (Oncorhynchus mykiss) 96 h LC50 100 - 136 mg/L (Oncorhynchus mykiss) 96 h LC50 23.2 - 29.7 mg/L (Pimephales promelas) 96 h	LC50 2 mg/L (Daphnia magna) 48 h EC50 11.3 - 18 mg/L (Daphnia magna) 48 h

Persistence and degradability

Readily biodegradable

Mobility

Will likely be mobile in the environment due to its water solubility

Bioaccumulation

Not likely to bioaccumulate

Chemical name	Octanol-Water Partition Coefficient
formaldehyde (non-stabilised)	0.35

Other adverse effects

No information available.

SECTION 13. Disposal considerations

Waste Disposal Methods

Should not be released into the environment. Dispose of contents as hazardous waste in accordance with local/regional/national/international regulations.

Disposal considerations

This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). This material and its container must be disposed of as hazardous waste. Dispose of in accordance with federal, state and local regulations.

SECTION 14. Transport information

This material is subject to regulation as a hazardous material for shipping when offered or intended by aircraft.

DOT

UN number UN3334
UN proper shipping name Aviation regulated liquid, n.o.s. (formaldehyde)
Transport hazard class(es) 9
Packing group III

IATA

UN number UN3334
UN proper shipping name Aviation regulated liquid, n.o.s. (formaldehyde)
Transport hazard class(es) 9
Packing group III

SECTION 15. Regulatory information

North American Inventory Listing

Chemical name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
formaldehyde (non-stabilised)	Listed	Not Listed	Listed	Not Listed

Canadian Workplace Hazardous Materials Information System (WHMIS) Classification

This product does not meet the criteria for classification under the Hazardous Products Act.

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical name	CAS No	SARA 313 - Threshold Values %
formaldehyde (non-stabilised)	50-00-0	0.1

SARA 311/312 Hazard Categories

Acute Health Hazard Yes
Chronic Health Hazard Yes
Fire Hazard No
Sudden Release of Pressure Hazard No
Reactive Hazard No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances	CWA - Bioaccumulative Chemicals of Concern (BCCs)
formaldehyde (non-stabilised)	100 lb	Not Listed	Not Listed	Listed	Not Listed

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
formaldehyde (non-stabilised)	100 lb	100 lb

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical name	California Prop. 65
formaldehyde (non-stabilised)	Carcinogen

U.S. State Right-to-Know Regulations

This product contains the following U.S. State Right to Know chemicals:

Chemical name	New Jersey	Massachusetts	Pennsylvania
water	Not Listed	Not Listed	Listed
formaldehyde (non-stabilised)	Listed	Listed	Listed

U.S. FIFRA Label Information

This product does not contain any substances regulated as pesticides.

US Commerce Department - Export Administration Regulations Information

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

U.S. Drug Enforcement Administration Information

This product does not contain any substances regulated under the DEA.

SECTION 16. Other information

Issuing Date: 2014-04-02
Revision Date: 2024-09-24

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet