

Safety Data Sheet (SDS) According to the REACH Regulation (EC) No. 1907/2006

Issuing Date: 2014-04-02

Revision Date: 2024-09-24

Version: 4

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

1.1. Product identifier

Product No 12606
Product name 16% Formaldehyde, Methanol-Free

Contains

Chemical name	Index No.	CAS No
formaldehyde (non-stabilised) (10-30)	605-001-00-5	50-00-0

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

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

1.3. Details of the supplier of the safety data sheet

Importer	Manufacturer
Cell Signaling Technology Europe B.V.	Cell Signaling Technology, Inc.
Dellaertweg 9b	3 Trask Lane
2316 WZ Leiden	Danvers, MA 01923
The Netherlands	United States
TEL: +31 (0)71 7200 200	TEL: +1 978 867 2300
FAX: +31 (0)71 891 0019	FAX: +1 978 867 2400

Website www.cellsignal.com
E-mail Address info@cellsignal.eu

1.4. Emergency telephone number

CHEMTREC 24 hours a day, 7 days a week, 365 days a year
 +1 703 527 3887 (INTERNATIONAL) +1 800 424 9300 (NORTH AMERICA)

Europe 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Acute oral toxicity	Category 4 - (H302)
Acute dermal toxicity	Category 4 - (H312)
Acute inhalation toxicity	Category 3 - (H331)
Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2 - (H319)

Skin sensitization	Category 1 - (H317)
Germ cell mutagenicity	Category 2 - (H341)
Carcinogenicity	Category 1B - (H350)
Specific target organ toxicity - single exposure (STOT SE)	Category 3 - (H335)

2.2. Label elements



Signal word

Danger

Hazard statement(s)

H302 + H312 - Harmful if swallowed or in contact with skin.

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction.

H319 - Causes serious eye irritation.

H331 - Toxic if inhaled.

H335 - May cause respiratory irritation.

H341 - Suspected of causing genetic defects.

H350 - May cause cancer.

Precautionary statement(s)

P201 - Obtain special instructions before use.

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

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

P264 - Wash face, hands and any exposed skin thoroughly after handling.

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.

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

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.

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position 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 + P313 - IF exposed or concerned: Get medical advice/attention.

P311 - Call a POISON CENTER or doctor/physician.

P330 - Rinse mouth.

P333 + P317 - If skin irritation or rash occurs: Get medical help.

P337 + P313 - If eye irritation persists: Get medical advice/attention.

P362 + P364 - Take off contaminated clothing and wash it before reuse.

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

P405 - Store locked up.

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

2.3. Other hazards

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

For the full text of the H-phrases & EUH-phrases mentioned in this Section, see Section 16

SECTION 3: Composition/information on ingredients

Chemical name	CAS No	Weight-%	EC No	Classification (1272/2008)	REACH Registration Number
formaldehyde (non-stabilised)	50-00-0	10-30	200-001-8	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Corr. 1B (H314) Skin Sens. 1 (H317) Muta. 2 (H341) Carc. 1B (H350)	no data available

Formaldehyde has been classified by the International Agency for Research on Cancer (IARC) as a Known Human Carcinogen (Group 1).

For the full text of the H-phrases & EUH-phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	Use first aid treatment according to the nature of the injury. When symptoms persist or in all cases of doubt seek medical advice.
Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur. If not breathing, give artificial respiration.
Skin contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.
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.
Ingestion	Clean mouth with water and afterwards drink plenty of water. Do not induce vomiting without medical advice. Immediate medical attention is required.

4.2. 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.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Dry chemical Carbon dioxide (CO ₂) Alcohol-resistant foam Water spray or fog
Unsuitable Extinguishing Media	No information available

5.2. Special hazards arising from the substance or mixture

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

**Hazardous Combustion
Products**

Formic acid

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment.

SECTION 6: Accidental release measures

6.1. 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.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

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

6.3. 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.

6.4. Reference to other sections

See Sections 8 & 13 for additional information.

SECTION 7: Handling and storage

7.1. 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.

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

Use as a laboratory reagent.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limit values

Chemical name	European Union	United Kingdom	France	Spain	Germany
formaldehyde (non-stabilised)	S* TWA 0.37 mg/m ³ TWA 0.62 mg/m ³ TWA 0.3 ppm TWA 0.5 ppm	STEL 2 ppm STEL 2.5 mg/m ³ TWA 2 ppm TWA 2.5 mg/m ³ C	TWA 0.5 ppm TWA 0.3 ppm TWA 0.37 mg/m ³ TWA 0.62 mg/m ³ STEL 0.6 ppm STEL 0.74 mg/m ³ C1 M2	TWA 0.3 ppm TWA 0.37 mg/m ³ STEL 0.6 ppm STEL 0.74 mg/m ³ S+	TWA: 0.3 ppm TWA: 0.37 mg/m ³ Skin Ceiling / Peak: 0.6 ppm Ceiling / Peak: 0.74 mg/m ³
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
formaldehyde (non-stabilised)	TWA 0.37 mg/m ³ TWA 0.3 ppm TWA 0.62 mg/m ³ TWA 0.5 ppm STEL 0.74 mg/m ³ STEL 0.6 mg/m ³ Pelle*	TWA 0.3 ppm TWA 0.37 mg/m ³ TWA 0.62 mg/m ³ TWA 0.5 ppm STEL 0.6 ppm STEL 0.74 mg/m ³ Ceiling 0.3 ppm S+ C(A2)	STEL 0.41 ppm STEL 0.5 mg/m ³ TWA 0.12 ppm TWA 0.15 mg/m ³	TWA 0.3 ppm TWA 0.37 mg/m ³ TWA 0.05 ppm STEL 0.6 ppm STEL 0.74 mg/m ³	TWA 0.3 ppm TWA 0.37 mg/m ³ STEL 0.74 mg/m ³ STEL 0.6 ppm
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
formaldehyde (non-stabilised)	STEL 0.6 ppm STEL 0.74 mg/m ³ TWA 0.3 ppm TWA 0.37 mg/m ³ A2 Sh/Sah**	SS-C** S+ TWA 0.3 ppm TWA 0.37 mg/m ³ C1 STEL 0.6 ppm STEL 0.74 mg/m ³	TWA 0.37 mg/m ³ STEL 0.74 mg/m ³	TWA 0.37 mg/m ³ TWA 0.3 ppm Ceiling 1 ppm Ceiling 1.2 mg/m ³ K** A+ STEL 0.74 mg/m ³ STEL 0.6 ppm	TWA 0.3 ppm TWA 0.5 ppm TWA 0.37 mg/m ³ TWA 0.62 mg/m ³ Carc1B STEL 0.6 ppm STEL 0.738 mg/m ³ STEL 0.62 mg/m ³ Sensitizer

Biological limit values					
Chemical name	European Union	United Kingdom	France	Spain	Germany
formaldehyde (non-stabilised)					Biologische Grenzwerte nach die Verordnung zur arbeitsmedizinischen Vorsorge vom 18. Dezember 2008 sind zu beachten

8.2. Exposure controls

Appropriate engineering controls

Showers, eyewash stations, and ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection

Tightly fitting safety goggles / Face-shield

Skin protection

Wear protective gloves and protective clothing.

Hand protection

Impervious gloves.

Other

Wear suitable protective 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.

Environmental Exposure Controls

No information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Liquid - Clear

Color	Colorless / Light yellow	
Odor	Pungent, Characteristic	
<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	5.4	@ 20 °C
Melting point/freezing point	No information available	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	No information available
Flammability	No information available	No information available
Upper/lower flammability or explosive limits	Lower: 7% - Upper: 73%	Formaldehyde, 37% (Non-stabilized)
Vapor pressure	No information available	No information available
Relative vapor density	No information available	No information available
Density and/or relative density	No information available	No information available
Solubility	No information available.	No information available
Partition coefficient: n-octanol/water	No information available	No information available
Autoignition temperature	No information available	No information available
Decomposition temperature	No information available	No information available.
Viscosity	No information available	No information available
Explosive properties	No information available	No information available
Oxidizing properties	No information available	No information available
<u>9.2. Other information</u>		
Softening point	No information available	
Molecular Weight	No information available	
Solubility in other solvents	No information available	
VOC content	No information available	
Liquid Density	No information available	

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

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

10.4. Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

None under normal use conditions

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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.

ATEmix (oral)	2,500.00
ATEmix (dermal)	6,750.00
ATEmix (inhalation-dust/mist)	14.45

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.

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	European Union	IARC
formaldehyde (non-stabilised)	Carc. 1B	Group 1

Legend:

IARC: (International Agency for Research on Cancer) Group 1 - Carcinogenic to Humans

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.
Aspiration Hazard	No information available.

11.2. Information on other hazards

No information available.

SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic life.

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

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

12.2. Persistence and degradability

Readily biodegradable

12.3. Bioaccumulative potential

Bioaccumulation Not likely to bioaccumulate.

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

Bioconcentration factor (BCF) No information available.

12.4. Mobility in soil

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

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues / unused products Dispose of as hazardous waste in compliance with local and national regulations.
Contaminated packaging Dispose of contents/container to hazardous or special waste collection point.

Other information

Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

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

IMDG/IMO

14.1 UN number	UN3334
14.2 UN proper shipping name	Aviation regulated liquid, n.o.s. (formaldehyde)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environmental hazards	None
14.6 Special precautions for user	None
14.7 Maritime transport in bulk according to IMO instruments	Not regulated

ADR/RID

14.1 UN number	UN3334
14.2 UN proper shipping name	Aviation regulated liquid, n.o.s. (formaldehyde)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environmental hazards	None
14.6 Special precautions for user	None

IATA

14.1 UN number	UN3334
14.2 UN proper shipping name	Aviation regulated liquid, n.o.s. (formaldehyde)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environmental hazards	None
14.6 Special precautions for user	None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)**

This product does not contain Substances of Very High Concern (SVHC).

SEVESO Directive Information

Chemical name	96/82/EC - Qualifying Quantities
formaldehyde (non-stabilised)	5 tonne (Lower-tier) 50 tonne (Upper-tier)

International inventories

TSCA 8(b)	Complies
DSL/NDL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies

AICS

Complies

International inventories legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

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

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out

SECTION 16: Other information

Full text of H-Statements referred to under Sections 2 and 3

H301 - Toxic 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

Classification procedure: Expert judgment and weight of evidence determination.

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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.