



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

Issuing Date: 2017-08-20

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Version: 2

SECTION 1. Identification

Product identifier

Product No 12727
Product name Immunofluorescence Application Solutions Kit
Kit Component
12528: 10X Wash Buffer, Phosphate Buffered Saline (PBS)
12606: 16% Formaldehyde, Methanol-Free
12411: Immunofluorescence Blocking Buffer
12378: Immunofluorescence Antibody Dilution Buffer

Hazardous Components

12606: 16% Formaldehyde, Methanol-Free

UN number UN3316

Recommended use of the chemical and restrictions on use

Identified uses This product is intended for research purposes only.

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 2A
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****Kit Component****12606: 16% Formaldehyde, Methanol-Free**

DANGER: Harmful if swallowed or in contact with skin. Causes skin irritation. May cause an allergic skin reaction. Causes serious

eye irritation. Toxic if inhaled. May cause respiratory irritation. May cause genetic defects. May cause cancer.

Chemical name	CAS No	Weight-%
formaldehyde (non-stabilised)	50-00-0	16

Kit Component 12528: 10X Wash Buffer, Phosphate Buffered Saline (PBS)

Chemical name	CAS No	Weight-%
sodium azide	26628-22-8	<0.1

Kit Component 12411: Immunofluorescence Blocking Buffer

Chemical name	CAS No	Weight-%
sodium azide	26628-22-8	<0.1

Kit Component 12378: Immunofluorescence Antibody Dilution Buffer

Chemical name	CAS No	Weight-%
sodium azide	26628-22-8	<0.1

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. If skin irritation or rash occurs: Get medical advice/attention.
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	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.
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Packaging material
Incompatible productsNo information available
Strong oxidizing agents, Acids, Inorganic acids, Isocyanates, Alkali, Phenols, Urea**SECTION 8. Exposure controls/personal protection****Control parameters**

Occupational exposure limit values			
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
sodium azide	Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm	-	Ceiling: 0.1 ppm Ceiling: 0.3 mg/m ³

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 the known physical chemical properties of each component within Kit are given below. If not included, information is either not available or not applicable. Refer to individual kit component SDS for further information.

Information on basic physical and chemical properties**Kit Component****12606: 16% Formaldehyde, Methanol-Free**

Physical state

Liquid

Appearance

Clear

Color

Colorless / Light yellow

Odor

Pungent, Characteristic

pH

5.4 (20 °C)

Boiling point or initial boiling point and boiling range

98 °C / 208.4 °F

Remarks

Formaldehyde, 37% (Non-stabilized)

Flash point

85 °C / 185 °F (Formaldehyde, 37% (Non-stabilized))

Lower explosion limit

7%

Upper explosion limit

73%

Kit Component**12411: Immunofluorescence Blocking Buffer**

Physical state

Liquid

Appearance	Clear
Color	Colorless
pH	8.0 (20 °C)

Kit Component	12528: 10X Wash Buffer, Phosphate Buffered Saline (PBS)
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH	7.4 (20 °C)

Kit Component	12378: Immunofluorescence Antibody Dilution Buffer
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH	8.0 (20 °C)

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

Product Information

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.

Inhalation

Kit Component	12606: 16% Formaldehyde, Methanol-Free
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**Kit Component**
Eye contact**12606: 16% Formaldehyde, Methanol-Free**

Vapor may cause irritation Contact with eyes may cause irritation May cause redness and tearing of the eyes May cause redness, itching, and pain

Skin contact**Kit Component**
Skin contact**12606: 16% Formaldehyde, Methanol-Free**

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**Kit Component**
Ingestion**12606: 16% Formaldehyde, Methanol-Free**

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**Component Information**

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
formaldehyde (non-stabilised)	= 100 mg/kg (Rat)	> 2000 mg/kg (Rat)	< 463 ppm (Rat) 4 h
sodium azide	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit) = 50 mg/kg (Rat)	-

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 and Eye Corrosion/Irritation**Kit Component**Serious eye damage/eye irritation
Skin corrosion/irritation**12606: 16% Formaldehyde, Methanol-Free**Irritating to eyes
Irritating to skin**Sensitization****Kit Component**

Skin Sensitization

12606: 16% Formaldehyde, Methanol-Free

May cause skin sensitization

Mutagenic effects**Kit Component**

Mutagenic effects

12606: 16% Formaldehyde, Methanol-Free

Contains a known or suspected mutagen Genotoxic in some animal in vitro and in vivo

studies

Carcinogenicity**Kit Component**
Carcinogenicity**12606: 16% Formaldehyde, Methanol-Free**

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

Chemical name	IARC	NTP	OSHA
formaldehyde (non-stabilised) 50-00-0	Group 1	Known	X

Legend:IARC: (International Agency for Research on Cancer) *Group 1 - Carcinogenic to Humans***Reproductive toxicity****Kit Component**

Reproductive toxicity

12606: 16% Formaldehyde, Methanol-Free

Contains material that may cause adverse reproductive effects.

Systemic Target Organ Toxicity (STOT)**Kit Component**

STOT - single exposure

12606: 16% Formaldehyde, Methanol-Free

Respiratory system

Aspiration Hazard

No information available.

SECTION 12. Ecological information**Ecotoxicity****Component Information**

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
sodium azide	EC50 0.35 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 0.8 mg/L (Oncorhynchus mykiss) 96 h LC50 0.7 mg/L (Lepomis macrochirus) 96 h LC50 5.46 mg/L (Pimephales promelas) 96 h	LC100 1 mg/L (Orconectes rusticus) 96 h

Persistence and degradability

No information available

Bioaccumulation

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

Mobility No information available

Other adverse effects

No information available.

SECTION 13. Disposal considerations

Waste Disposal Methods

Dispose of in accordance with all applicable national environmental laws and regulations.

Kit Component

Waste Disposal Method

12606: 16% Formaldehyde, Methanol-Free

This material and its container must be disposed of as hazardous waste. Should not be released into the environment. Dispose of contents/container in accordance with local regulation.

Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way. Dispose of wastes in an approved waste disposal facility.

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	UN3316
UN proper shipping name	Chemical Kit
Transport hazard class(es)	9
Packing group	III

IATA

UN number	UN3316
UN proper shipping name	Chemical Kit
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
sodium azide	Listed	Not Listed	Listed	Not Listed

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
sodium azide	26628-22-8	1.0

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
sodium azide	1000 lb	1000 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
disodium hydrogenorthophosphate	Listed	Listed	Listed
sodium azide	Listed	Listed	Listed

SECTION 16. Other information

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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.

End of Safety Data Sheet