



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

**Issuing Date:** 2018-05-14

**Revision Date:** 2024-11-13

**Version:** 2

## SECTION 1. Identification

### Product identifier

**Product No** 13593  
**Product name** Intracellular Flow Cytometry Kit  
**Kit Component**  
13616: Flow Cytometry Antibody Dilution Buffer  
12528: 10X Wash Buffer, Phosphate Buffered Saline (PBS)  
13604: Methanol  
47746: 4% Formaldehyde, Methanol Free

### Hazardous Components

13604: Methanol  
47746: 4% Formaldehyde, Methanol Free

**UN number** UN1230

### 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

Classification and label elements described below are inclusive of all hazards of the combined kit. The most severe classifications are listed for each endpoint. Refer to individual kit component SDS for classification and label elements for each component present in the kit.

Acute oral toxicity	Category 3
Acute dermal toxicity	Category 3
Acute inhalation toxicity	Category 3
Skin sensitization	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1A

Specific target organ toxicity - single exposure (STOT SE)	Category 1
Flammable liquids	Category 2

**GHS Label elements, including precautionary statements****Signal Word**

Danger

**Hazard statement(s)**

Highly flammable liquid and vapor.  
Toxic if swallowed.  
Toxic in contact with skin.  
Toxic if inhaled.  
Causes damage to organs.  
May cause an allergic skin reaction.  
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.  
Keep away from heat/sparks/open flames/hot surfaces. — No smoking.  
Keep container tightly closed.  
Ground/Bond container and receiving equipment.  
Use explosion-proof electrical/ventilating/lighting/equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Do not breathe dust/fume/gas/mist/vapors/spray.  
Wash face, hands and any exposed skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Contaminated work clothing should not be allowed out of the workplace.  
IF exposed or concerned: Get medical advice/attention  
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
If skin irritation occurs: Get medical advice/attention  
Take off contaminated clothing and wash before reuse  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
Call a POISON CENTER or doctor/physician if you feel unwell  
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish  
Store in a well-ventilated place. Keep cool.  
Store locked up.  
Dispose of contents/container to an approved waste disposal plant.

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

Not applicable.

**SECTION 3. Composition/information on ingredients**

**Kit Component 13616: Flow Cytometry Antibody Dilution Buffer**

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

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

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

**Kit Component 13604: Methanol**

DANGER: Highly flammable liquid and vapor. Toxic if swallowed. Toxic if inhaled. Toxic in contact with skin. Causes damage to organs.

Chemical name	CAS No	Weight-%
methanol	67-56-1	100

**Kit Component 47746: 4% Formaldehyde, Methanol Free**

DANGER: May cause an allergic skin reaction. May cause cancer. Suspected of causing genetic defects.

Chemical name	CAS No	Weight-%
Formaldehyde	50-00-0	4

## SECTION 4. First-aid measures

<b>Eye contact</b>	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. Immediate medical attention is required.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.
<b>Inhalation</b>	Move to fresh air. If not breathing, give artificial respiration. Consult a physician.
<b>Ingestion</b>	Clean mouth with water and afterwards drink plenty of water. Do NOT induce vomiting. Immediate medical attention is required.

**Most important symptoms and effects, both acute and delayed**

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**Advice for emergency responders**

<b>General advice</b>	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
<b>Protection of first-aiders</b>	Use personal protective equipment Avoid contact with skin, eyes and clothing

## SECTION 5. Fire-fighting measures

**Extinguishing media**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment Alcohol-resistant foam Dry powder Water
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**Specific hazards arising from the chemical**

Methanol flame is low temperature and non-luminous, therefore, when methanol catches fire, it burns with a clear blue flame that is very difficult to see in bright sun light. Thermal decomposition can lead to release of irritating gases and vapors.

**Explosion Data**

<b>Sensitivity to Mechanical Impact</b>	None
<b>Sensitivity to Static Discharge</b>	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**

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

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained. Prevent product from entering drains. Prevention of fire and explosion. A vapor suppressing foam may be used to reduce vapors. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

**Methods and material for containment and cleaning up**

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.
<b>Methods for cleaning up</b>	Prevent product from entering drains. 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 in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use.

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**Conditions for safe storage, including any incompatibilities**

<b>Technical measures/Storage conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.
<b>Packaging material</b>	No information available
<b>Incompatible products</b>	Metals, Strong acids, Strong oxidizing agents

**SECTION 8. Exposure controls/personal protection****Control parameters**

Occupational exposure limit values			
Chemical name	ACGIH TLV	OSHA PEL	NIOSH REL
methanol	S* STEL: 250 ppm TWA: 200 ppm	TWA : 200 ppm TWA : 260 mg/m <sup>3</sup>	IDLH : 6000 ppm TWA : 200 ppm TWA : 260 mg/m <sup>3</sup> STEL: 250 ppm STEL: 325 mg/m <sup>3</sup>
Formaldehyde	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 <sup>3</sup> Ceiling: 0.11 ppm	-	Ceiling: 0.1 ppm Ceiling: 0.3 mg/m <sup>3</sup>

**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.

<b>Eye/face protection</b>	Safety glasses with side-shields.
<b>Skin and body protection</b>	Wear protective gloves/clothing.
<b>Respiratory protection</b>	Use only with adequate ventilation. In case of insufficient ventilation wear suitable respiratory equipment.
<b>Hygiene measures</b>	Provide regular cleaning of equipment, work area and clothing. Remove and wash contaminated clothing before re-use.

**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**

<b>Kit Component</b>	<b>13616: Flow Cytometry Antibody Dilution Buffer</b>
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH	7.7 (20 °C)
<b>Kit Component</b>	<b>12528: 10X Wash Buffer, Phosphate Buffered Saline (PBS)</b>
Physical state	Liquid
Appearance	Clear

Color	Colorless
pH	7.4 (20 °C)

<b>Kit Component</b>	<b>13604: Methanol</b>
Physical state	Liquid
Appearance	Clear
Color	Colorless
Boiling point or initial boiling point and boiling range	64.7 °C
Melting point/freezing point	-98 °C
Flash point	9.7 °C
Vapor pressure	130.3 hPa
Vapor density	1.11
Partition coefficient:	-0.77
Autoignition temperature	455°C
Lower explosion limit	6%
Upper explosion limit	36%

<b>Kit Component</b>	<b>47746: 4% Formaldehyde, Methanol Free</b>
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH	7.4 (20 °C)

## SECTION 10. Stability and reactivity

### Reactivity

No information available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

<b>Hazardous reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	None under normal processing.

### Conditions to Avoid

Heat, flames and sparks, Over a period of time, sodium azide may react with copper, lead, brass, or solder in plumbing systems to form an accumulation of the HIGHLY EXPLOSIVE compounds of lead azide & copper azide

### Incompatible Materials

Metals, Strong acids, Strong oxidizing agents

### Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors

## 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

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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**  
Inhalation

**13604: Methanol**  
Toxic by inhalation

**Kit Component**  
Inhalation

**47746: 4% Formaldehyde, Methanol Free**  
Harmful by inhalation

#### Eye contact

There is no data available for this product

**Kit Component**  
Eye contact

**13604: Methanol**  
Contact with eyes may cause irritation

**Kit Component**  
Eye contact

**47746: 4% Formaldehyde, Methanol Free**  
Causes serious eye irritation

#### Skin contact

**Kit Component**  
Skin contact

**13604: Methanol**  
May be absorbed through the skin in harmful amounts

**Kit Component**  
Skin contact

**47746: 4% Formaldehyde, Methanol Free**  
May cause sensitization by skin contact

#### Ingestion

**Kit Component**  
Ingestion

**13604: Methanol**  
May be fatal or cause blindness if swallowed.

**Kit Component**  
Ingestion

**47746: 4% Formaldehyde, Methanol Free**  
May be harmful if swallowed.

#### Information on toxicological effects

##### Component Information

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
methanol	= 6200 mg/kg (Rat) = 1400 (primate)	= 15840 mg/kg (Rabbit)	= 22500 ppm (Rat) 8 h
Formaldehyde	= 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

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.

##### Skin and Eye Corrosion/Irritation

No information available

##### Sensitization

**Kit Component**  
Respiratory Sensitization  
Skin Sensitization

**47746: 4% Formaldehyde, Methanol Free**  
May cause allergy or asthma symptoms or breathing difficulties if inhaled  
May cause skin sensitization

#### Mutagenic effects

**Kit Component**  
Mutagenic effects

**47746: 4% Formaldehyde, Methanol Free**  
Substances which should be regarded as being mutagenic to man

#### Carcinogenicity

**Kit Component**  
Carcinogenicity

**47746: 4% Formaldehyde, Methanol Free**  
May cause cancer

Chemical name	IARC	NTP	OSHA
Formaldehyde 50-00-0	Group 1	Known	X

#### 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

No information available.

#### Systemic Target Organ Toxicity (STOT)

**Kit Component**  
STOT - repeated exposure  
STOT - single exposure

**13604: Methanol**  
Liver  
Liver, Respiratory system

**Kit Component**  
STOT - repeated exposure  
STOT - single exposure

**47746: 4% Formaldehyde, Methanol Free**  
Central nervous system, Respiratory system  
Central nervous system, 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
methanol	EC50 22,000 mg/l (Scenedesmus capricornutum) 96 h	LC50 28200 mg/L (Pimephales promelas) 96 h LC50 100 mg/L (Pimephales promelas) 96 h LC50 19500 - 20700 mg/L (Oncorhynchus mykiss) 96 h LC50 18 - 20 mL/L (Oncorhynchus mykiss) 96 h LC50 13500 - 17600 mg/L (Lepomis macrochirus) 96 h	EC50 > 10000 mg/l (Daphnia magna) 48 h
Formaldehyde	-	LC50 22.6 - 25.7 mg/L (Pimephales	LC50 2 mg/L (Daphnia magna) 48 h



		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	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****Kit Component**

Persistence and degradability

**13604: Methanol**

Product is biodegradable

**Bioaccumulation****Kit Component**

Bioaccumulation

Bioconcentration factor (BCF)

**13604: Methanol**

Does not bioaccumulate

1.0

Chemical name	Octanol-Water Partition Coefficient
methanol	-0.77
Formaldehyde	0.35

**Mobility****Kit Component**

Mobility

**13604: Methanol**

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

**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.

**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:

**DOT**

**UN number** UN1230  
**UN proper shipping name** Methanol  
**Transport hazard class(es)** 3(6.1)  
**Packing group** II

**IATA**

**UN number** UN1230  
**UN proper shipping name** Methanol  
**Transport hazard class(es)** 3 (6.1)  
**Packing group** II

## SECTION 15. Regulatory information

**North American Inventory Listing**

Chemical name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
methanol	Listed	Not Listed	Listed	Not Listed
Formaldehyde	Listed	Not Listed	Listed	Not Listed
sodium azide	Listed	Not Listed	Listed	Not Listed

**SARA 313**

Refer to kit component SDS for full SARA Section 313 reporting requirements.

Chemical name	CAS No	SARA 313 - Threshold Values %
methanol	67-56-1	1.0
Formaldehyde	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** Yes  
**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	100 lb	Not Listed	Not Listed	Listed	Not Listed

**CERCLA**

Refer to kit component SDS for full Comprehensive Environmental Response Compensation and Liability Act (CERCLA) reporting requirements.

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
methanol	5000 lb	Not Listed
Formaldehyde	100 lb	100 lb
sodium azide	1000 lb	1000 lb

**California Proposition 65**

Refer to kit component SDS for full California Proposition 65 information.

Chemical name	California Prop. 65
methanol	Developmental
Formaldehyde	Carcinogen

**U.S. State Right-to-Know Regulations**

Refer to kit component SDS for applicable State Right-To-Know (RTK) information.

Chemical name	New Jersey	Massachusetts	Pennsylvania
water	Not Listed	Not Listed	Listed
methanol	Listed	Listed	Listed
Formaldehyde	Listed	Listed	Listed
disodium hydrogenorthophosphate	Listed	Listed	Listed
sodium azide	Listed	Listed	Listed
disodium hydrogenorthophosphate	Listed	Listed	Listed

**SECTION 16. Other information**

**Issuing Date:** 2018-05-14

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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