



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 13079
Product name Immunohistochemistry Application Solutions Kit (Rabbit)
Kit Component
11724: SignalStain® DAB Diluent
11725: SignalStain® DAB Chromogen Concentrate
8112: SignalStain® Antibody Diluent
8114: SignalStain® Boost IHC Detection Reagent (HRP, Rabbit)
15019: Animal-Free Blocking Solution (5X)
UN number UN1993

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

Acute oral toxicity	Category 4
Acute inhalation toxicity	Category 4
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1B
Reproductive toxicity	Category 1B

Flammable liquids

Category 2

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

Danger.

Hazard statement(s)

Flammable liquid and vapor.

Harmful if inhaled.

Harmful if swallowed.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

May damage fertility or the unborn child.

Precautionary Statement(s)

Obtain special instructions before use.

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

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

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

Contaminated work clothing should not be allowed out of the workplace.

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

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 eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

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.

Remove/Take off immediately all contaminated clothing.

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.

In case of fire: Use dry chemical, CO₂, water spray or alcohol-resistant foam to extinguish

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

11724: SignalStain® DAB Diluent

DANGER: May damage fertility or the unborn child.

Chemical name	CAS No	Weight-%
1-Imidazole	288-32-4	0.1-0.5

Kit Component 11725: SignalStain® DAB Chromogen Concentrate

DANGER: Highly flammable liquid and vapor. Harmful if swallowed. Harmful if inhaled. Causes serious eye irritation. Suspected of causing genetic defects. May cause cancer.

Chemical name	CAS No	Weight-%
acetonitrile	75-05-8	50
3,3-Diaminobenzidine tetrahydrochloride hydrate	868272-85-9	2.5

Kit Component 8112: SignalStain® Antibody Diluent

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

Kit Component 8114: SignalStain® Boost IHC Detection Reagent (HRP, Rabbit)

WARNING: May cause an allergic skin reaction.

Chemical name	CAS No	Weight-%
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	0.0015 - <0.01
2-methyl-2H-isothiazol-3-one	2682-20-4	0.0015 - <0.01

Kit Component 15019: Animal-Free Blocking Solution (5X)

This product does not contain substances at concentrations requiring disclosure under 29 CFR 1910.1200 (OSHA Hazard Communication Standard).

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. If skin irritation or rash occurs: Get medical advice/attention.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.
Ingestion	Clean mouth with water and afterwards drink plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed

Liquid, aerosols and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes. May cause an allergic skin reaction including itching, redness, and rash. Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness, cessation of breathing. 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**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**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Water spray

Alcohol-resistant foam

Dry chemical

Carbon dioxide (CO₂)

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

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

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**

Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Remove all sources of ignition. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Take precautionary measures against static discharges.

Other information

No information available.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

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

Contain spill. 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. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove and wash contaminated clothing before re-use. Keep away from open flames, hot surfaces and sources of ignition. Do not breathe vapors or spray mist. Do not eat, drink or smoke when using this product. Do not ingest.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions	Keep in a dry, cool and well-ventilated place.
Packaging material	No information available.
Incompatible products	None known based on information supplied.

SECTION 8. Exposure controls/personal protection

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH REL
acetonitrile	S* TWA: 20 ppm	TWA : 40 ppm TWA : 70 mg/m ³ TWA : 5 mg/m ³ S*	IDLH : 137 ppm IDLH : 25 mg/m ³ TWA : 20 ppm TWA : 34 mg/m ³
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.
Skin and body protection	Wear protective gloves/clothing.
Respiratory protection	In case of inadequate ventilation wear respiratory protection.
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. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Provide regular cleaning of equipment, work area and clothing. Wash hands before breaks and immediately after handling the product.

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	11724: SignalStain® DAB Diluent
Physical state	Liquid
Color	Colorless
Kit Component	11725: SignalStain® DAB Chromogen Concentrate
Physical state	Liquid
Color	Brown / Purple
Boiling point or initial boiling point and boiling range	>82 °C
Flash point	<23°C / <73°F
Kit Component	8112: SignalStain® Antibody Diluent
Physical state	Liquid
Appearance	Clear
Color	Light yellow
pH	7.4
Remarks	@ 20 °C
Kit Component	8114: SignalStain® Boost IHC Detection Reagent (HRP, Rabbit)
Physical state	Liquid
Appearance	Clear
Color	Colorless Orange
Kit Component	15019: Animal-Free Blocking Solution (5X)
Physical state	Liquid
Appearance	Clear
Color	Colorless

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	None under normal processing.

Conditions to Avoid

Extremes of temperature and direct sunlight. 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. Heat, flames and sparks.

Incompatible Materials

None known based on information supplied.

Hazardous Decomposition Products

Hazardous decomposition products formed under fire conditions; Carbon oxides (COx), Nitrogen oxides (NOx), Hydrogen chloride

SECTION 11. Toxicological information

Information on likely routes of exposure**Product Information**

Refer to kit component SDS for full toxicological 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
Inhalation

11725: SignalStain® DAB Chromogen Concentrate
Harmful by inhalation

Kit Component
Inhalation

8114: SignalStain® Boost IHC Detection Reagent (HRP, Rabbit)
Avoid breathing vapors or mists

Eye contact

Kit Component
Eye contact

11725: SignalStain® DAB Chromogen Concentrate
Irritating to eyes

Kit Component
Eye contact

8114: SignalStain® Boost IHC Detection Reagent (HRP, Rabbit)
Avoid contact with eyes

Skin contact

Kit Component
Skin contact

11725: SignalStain® DAB Chromogen Concentrate
Repeated or prolonged skin contact may cause allergic reactions with susceptible persons
May cause irritation

Kit Component
Skin contact

8114: SignalStain® Boost IHC Detection Reagent (HRP, Rabbit)
Avoid contact with skin

Ingestion

Kit Component
Ingestion

11725: SignalStain® DAB Chromogen Concentrate
Harmful if swallowed

Information on toxicological effects**Component Information**

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
acetonitrile	= 2460 mg/kg (Rat) = 160 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	= 26.8 mg/L (Rat) 4 h = 7551 ppm (Rat) 8 h
1-Imidazole	= 220 mg/kg (Rat)	-	-
sodium azide	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit) = 50 mg/kg (Rat)	-
5-chloro-2-methyl-2H-isothiazol-3-one	= 53 mg/kg (Rat)	-	-
2-methyl-2H-isothiazol-3-one	53 mg/kg (Rat)	-	-

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

Symptoms

Liquid, aerosols and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes. May cause an allergic skin reaction including itching, redness, and rash. Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness, cessation of breathing. 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**Kit Component**

Serious eye damage/eye irritation

11725: SignalStain® DAB Chromogen Concentrate

Causes serious eye irritation.

Sensitization**Kit Component**

Skin Sensitization

8114: SignalStain® Boost IHC Detection Reagent (HRP, Rabbit)

May cause skin sensitization. May cause an allergic skin reaction.

Mutagenic effects**Kit Component**

Mutagenic effects

11725: SignalStain® DAB Chromogen Concentrate

Suspected of causing genetic defects.

Carcinogenicity**Kit Component**

Carcinogenicity

11725: SignalStain® DAB Chromogen Concentrate

Contains a known or suspected carcinogen.

Reproductive toxicity**Kit Component**

Reproductive toxicity

11724: SignalStain® DAB Diluent

Product is or contains a chemical which is a known or suspected reproductive hazard.

Systemic Target Organ Toxicity (STOT)

No information available

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
acetonitrile	-	LC50 1600 - 1690 mg/L (Pimephales promelas) 96 h LC50 1650 mg/L (Poecilia reticulata) 96 h LC50 1850 mg/L (Lepomis macrochirus) 96 h LC50 1000 mg/L (Pimephales promelas) 96 h	EC50 5838 mg/L (Daphnia pulex) 18 h
1-Imidazole	EC50 82 mg/L (Desmodesmus subspicatus) 96 h EC50 130 mg/L (Desmodesmus	LC50 280 mg/L (Leuciscus idus) 48 h	EC50 341.5 mg/L (Daphnia magna) 48 h

sodium azide	subspicatus) 72 h EC50 0.35 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 0.8 mg/L (Oncorhynchus mykiss) 96 h LC50 5.46 mg/L (Pimephales promelas) 96 h LC50 0.7 mg/L (Lepomis macrochirus) 96 h	LC100 1 mg/L (Orconectes rusticus) 96 h
5-chloro-2-methyl-2H-isothiazol-3-one	EC50 0.11 - 0.16 mg/L (Pseudokirchneriella subcapitata) 72 h EC50 0.31 mg/L (Anabaena flos-aquae) 120 h EC50 0.03 - 0.13 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 1.6 mg/L (Oncorhynchus mykiss) 96 h	EC50 4.71 mg/L (Daphnia magna) 48 h EC50 0.71 - 0.99 mg/L (Daphnia magna) 48 h EC50 0.12 - 0.3 mg/L (Daphnia magna) 48 h

Persistence and degradability**Kit Component**

Persistence and degradability

8112: SignalStain® Antibody Diluent

Product is biodegradable

Bioaccumulation**Kit Component**

Bioaccumulation

8112: SignalStain® Antibody Diluent

Not likely to bioaccumulate

Chemical name	Octanol-Water Partition Coefficient
acetonitrile	-0.34
1-Imidazole	-0.08
5-chloro-2-methyl-2H-isothiazol-3-one	- 0.75

Mobility**Kit Component**

Mobility

8112: SignalStain® Antibody Diluent

Mobile

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**

UN1993

UN proper shipping name

Flammable Liquid, N.O.S. (Contains: acetonitrile; cyanomethane)

Transport hazard class(es) 3
Packing group II

IATA

UN number UN1993
UN proper shipping name Flammable Liquid, N.O.S. (Contains: acetonitrile; cyanomethane)
Transport hazard class(es) 3
Packing group II
Excepted Quantity E2

SECTION 15. Regulatory information

North American Inventory Listing

Chemical name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
acetonitrile	Listed	Not Listed	Listed	Not Listed
1-Imidazole	Listed	Not Listed	Listed	Not Listed
sodium azide	Listed	Not Listed	Listed	Not Listed
5-chloro-2-methyl-2H-isothiazol-3-one	Listed	Section 5: 1 %	Listed	Not Listed
2-methyl-2H-isothiazol-3-one	Listed	Section 5: 1 %	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 %
acetonitrile	75-05-8	1.0
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

Refer to kit component SDS for full Clean Water Act (CWA) reporting requirements.

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances	CWA - Bioaccumulative Chemicals of Concern (BCCs)
acetonitrile	Not Listed	Listed	Listed	Not 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
acetonitrile	5000 lb	Not Listed
sodium azide	1000 lb	1000 lb

California Proposition 65

This product does not contain any Proposition 65 chemicals.

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
acetonitrile	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