

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

Issuing Date: 2017-08-20

Revision Date: 2024-03-04

Version: 2

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

1.1. 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)

Contains

Chemical name	Index No.	CAS No
acetonitrile (50 - 60%)	608-001-00-3	75-05-8
3,3-Diaminobenzidine tetrahydrochloride hydrate (0 - 10%)	-	868272-85-9
1-Imidazole (0.1-0.5)	-	288-32-4
sodium azide (0 - 10%)	011-004-00-7	26628-22-8
5-chloro-2-methyl-2H-isothiazol-3-one (0 - 10%)	613-167-00-5	26172-55-4
2-methyl-2H-isothiazol-3-one (0 - 10%)	Not Listed	2682-20-4

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. Dellaertweg 9b 2316 WZ Leiden The Netherlands TEL: +31 (0)71 7200 200 FAX: +31 (0)71 891 0019	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
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

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 4 - (H302)
Acute inhalation toxicity	Category 4 - (H332)
Serious eye damage/eye irritation	Category 2 - (H319)
Skin sensitization	Category 1 - (H317)
Germ cell mutagenicity	Category 2 - (H341)
Carcinogenicity	Category 1B - (H350)
Reproductive toxicity	Category 1B - (H360)
Flammable liquids	Category 2 - (H225)

2.2. Label elements



Signal word

Danger

Hazard statement(s)

H225 - Highly flammable liquid and vapor.
 H302 - Harmful if swallowed.
 H332 - Harmful if inhaled.
 H317 - May cause an allergic skin reaction.
 H319 - Causes serious eye irritation.
 H341 - Suspected of causing genetic defects.
 H350 - May cause cancer.
 H360 - May damage fertility or the unborn child.

Precautionary statement(s)

P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P210 - Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
 P233 - Keep container tightly closed.
 P240 - Ground/Bond container and receiving equipment.
 P241 - Use explosion-proof electrical/ ventilating/ lighting/ equipment.
 P242 - Use only non-sparking tools.
 P243 - Take precautionary measures against static discharge.
 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.
 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.

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P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

P312 - Call a POISON CENTER or doctor if you feel unwell.

P330 - Rinse mouth.

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

P405 - Store locked up.

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

2.3. Other hazards

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

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-%	EC No	Classification (1272/2008)	REACH Registration Number
1-Imidazole	288-32-4	0.1-0.5	206-019-2	Acute Tox. 4 (H302) Skin Corr. 1C (H314) Repr. 1B (H360D)	no data available

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-%	EC No	Classification (1272/2008)	REACH Registration Number
acetonitrile	75-05-8	50	200-835-2	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Eye Irrit. 2 (H319) Flam. Liq. 2 (H225)	no data available
3,3-Diaminobenzidine tetrahydrochloride hydrate	868272-85-9	2.5	-	Muta. 2 (H341) Carc. 1B (H350)	no data available

Kit Component 8112: SignalStain® Antibody Diluent

Chemical name	CAS No	Weight-%	EC No	Classification (1272/2008)	REACH Registration Number
sodium azide	26628-22-8	<0.1	247-852-1	Acute Tox. 2 (H300) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) (EUH032)	no data available

SECTION 5: Firefighting measures

5.1. 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 (CO ₂)
Unsuitable Extinguishing Media	Do not use a solid water stream as it may scatter and spread fire

5.2. Special hazards arising from the substance or mixture

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

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

6.2. 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.

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	Contain spill. 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 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.

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7.2. Conditions for safe storage, including any incompatibilities

Keep in a dry, cool 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

Chemical name	European Union	United Kingdom	France	Spain	Germany
acetonitrile	TWA 40 ppm TWA 70 mg/m ³ S*	STEL 60 ppm STEL 102 mg/m ³ STEL 15 mg/m ³ TWA 40 ppm TWA 68 mg/m ³ 5 mg/m ³ Skin	TWA 40 ppm TWA 70 mg/m ³ 5 mg/m ³ P*	TWA 40 ppm TWA 68 mg/m ³ S*	TWA: 10 ppm TWA: 17 mg/m ³ Skin Ceiling / Peak: 20 ppm Ceiling / Peak: 34 mg/m ³ Ceiling / Peak: 2 mg/m ³ TWA: 2 mg/m ³ H*
3,3-Diaminobenzidine tetrahydrochloride hydrate					Skin K2
sodium azide	TWA 0.1 mg/m ³ STEL 0.3 mg/m ³ S*	STEL 0.3 mg/m ³ TWA 0.1 mg/m ³ Skin	TWA 0.1 mg/m ³ STEL 0.3 mg/m ³ P*	TWA 0.1 mg/m ³ STEL 0.3 mg/m ³ S*	TWA: 0.2 mg/m ³ Ceiling / Peak: 0.4 mg/m ³
5-chloro-2-methyl-2H-isothiazol-3-one					Ceiling / Peak: 0.4 mg/m ³ TWA: 0.2 mg/m ³
2-methyl-2H-isothiazol-3-one					Ceiling / Peak: 0.4 mg/m ³ TWA: 0.2 mg/m ³
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
acetonitrile	TWA 20 ppm TWA 35 mg/m ³ Pelle*	TWA 40 ppm TWA 70 mg/m ³ C(A4) P*	Huid* STEL 5 mg/m ³ TWA 34 mg/m ³ TWA 1 mg/m ³	TWA 20 ppm TWA 34 mg/m ³ TWA 1 mg/m ³ STEL 40 ppm STEL 68 mg/m ³ STEL 5 mg/m ³ iho*	TWA 40 ppm TWA 70 mg/m ³ H*
sodium azide	TWA 0.1 mg/m ³ STEL 0.3 mg/m ³ Pelle*	TWA 0.1 mg/m ³ STEL 0.3 mg/m ³ Ceiling 0.29 mg/m ³ Ceiling 0.11 ppm C(A4) P*	Huid* STEL 0.3 mg/m ³ TWA 0.1 mg/m ³	TWA 0.1 mg/m ³ STEL 0.3 mg/m ³ iho*	TWA 0.1 mg/m ³ H*
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
acetonitrile	H* STEL 160 ppm STEL 280 mg/m ³ TWA 40 ppm TWA 70 mg/m ³	SS-C** H* TWA 20 ppm TWA 34 mg/m ³ STEL 40 ppm STEL 68 mg/m ³	TWA 70 mg/m ³ STEL 140 mg/m ³	TWA 30 ppm TWA 50 mg/m ³ TWA 5 mg/m ³ S* STEL 45 ppm STEL 75 mg/m ³ STEL 10 mg/m ³	TWA 40 ppm TWA 70 mg/m ³ TWA 5 mg/m ³ STEL 120 ppm STEL 310 mg/m ³ STEL 15 mg/m ³ Skin
3,3-Diaminobenzidine tetrahydrochloride hydrate	H* A2 TWA 0.003 ppm TWA 0.03 mg/m ³				
sodium azide	H*	TWA 0.2 mg/m ³	TWA 0.1 mg/m ³	TWA 0.1 mg/m ³	TWA 0.1 mg/m ³

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	STEL 0.3 mg/m ³ TWA 0.1 mg/m ³	STEL 0.4 mg/m ³	STEL 0.3 mg/m ³	STEL 0.1 mg/m ³	STEL 0.3 mg/m ³ Skin
5-chloro-2-methyl-2H-isothiazol-3-one	H* TWA 0.05 mg/m ³ Sh/Sah**	S+			
2-methyl-2H-isothiazol-3-one	H* TWA 0.05 mg/m ³ Sh/Sah**	S+			

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.
Skin protection	Wear protective gloves and protective clothing
Hand protection	Impervious gloves.
Other	Wear suitable protective clothing.
Respiratory protection	In case of inadequate ventilation wear respiratory protection.

Environmental Exposure Controls

No information available.

SECTION 9. Physical and chemical properties

9.1. Information on basic 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.

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

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

Physical state Liquid
Appearance Clear
Color Orange

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

Physical state Liquid
Appearance Clear

Color

Colorless

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization	Hazardous polymerization does not occur.
Hazardous reactions	None under normal processing

10.4. Conditions to avoid

Extremes of temperature and direct sunlight
Heat, flames and sparks

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

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

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.

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)	-	-

Information on likely routes of exposure

Inhalation

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Kit Component
Inhalation

11725: SignalStain® DAB Chromogen Concentrate
Avoid breathing vapors or mists

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
Avoid contact with skin

Kit Component
Skin contact

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

Ingestion

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. 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

Mutagenic effects

Carcinogenic effects

No information available

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

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Aspiration Hazard No information available.

11.2. Information on other hazards

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Product Information No information available

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 subspicatus) 72 h	LC50 280 mg/L (Leuciscus idus) 48 h	EC50 341.5 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 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

12.2. Persistence and degradability

Kit Component **8112: SignalStain® Antibody Diluent**
Persistence and degradability Product is biodegradable

Kit Component **11725: SignalStain® DAB Chromogen Concentrate**
Persistence and degradability Readily biodegradable

12.3. Bioaccumulative potential

Kit Component **8112: SignalStain® Antibody Diluent**
Bioaccumulation 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

12.4. Mobility in soil

Kit Component	8112: SignalStain® Antibody Diluent
Mobility	Mobile

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Endocrine disrupting properties

12.7. Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.
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:

IMDG/IMO

14.1 UN number	UN1993
14.2 UN proper shipping name	Flammable Liquid, N.O.S. (Contains: acetonitrile; cyanomethane)
14.3 Transport hazard class(es)	3
14.4 Packing group	II
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	UN1993
14.2 UN proper shipping name	Flammable Liquid, N.O.S. (Contains: acetonitrile; cyanomethane)
14.3 Transport hazard class(es)	3
14.4 Packing group	II
14.5 Environmental hazards	None
14.6 Special precautions for user	None

IATA

14.1 UN number	UN1993
14.2 UN proper shipping name	Flammable Liquid, N.O.S. (Contains: acetonitrile; cyanomethane)
14.3 Transport hazard class(es)	3
14.4 Packing group	II
14.5 Environmental hazards	None

14.6 Special precautions for user None
Excepted Quantity E2

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

International inventories

TSCA 8(b)	-
DSL/NDSL	-
EINECS/ELINCS	-
ENCS	-
IECSC	-
KECL	-
PICCS	-
AICS	-

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

H225 - Highly flammable liquid and vapor
H300 - Fatal if swallowed
H302 - Harmful if swallowed
H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H314 - Causes severe skin burns and eye damage
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H341 - Suspected of causing genetic defects if inhaled
H350 - May cause cancer if swallowed

H360 - May damage fertility or the unborn child
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
EUH032 - Contact with acids liberates very toxic gas

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.