



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

Issuing Date: 2018-05-10

Revision Date: 2024-05-14

Version: 2

SECTION 1. Identification

Product identifier

Product No 9038
Product name Cell Fractionation Kit
Kit Component
9041: Cytoplasmic Isolation Buffer (CIB)
9048: Membrane Isolation Buffer (MIB)
9049: Cytoskeletal/Nuclear Isolation Buffer (CyNIB)
5871: Protease Inhibitor Cocktail (100X)

Hazardous Components

9049: Cytoskeletal/Nuclear Isolation Buffer (CyNIB)

5871: Protease Inhibitor Cocktail (100X)

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.

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

GHS Label elements, including precautionary statements

**Signal Word**

Warning

Hazard statement(s)

Causes skin irritation.

Causes serious eye irritation.

Precautionary Statement(s)

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

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

IF ON SKIN: Wash with plenty of soap and water

If skin irritation 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.

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

Not applicable.

SECTION 3. Composition/information on ingredients
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Kit Component **9041: Cytoplasmic Isolation Buffer (CIB)**

Chemical name	CAS No	Weight-%
sodium fluoride	7681-49-4	0.1-1

Kit Component **9048: Membrane Isolation Buffer (MIB)**

Chemical name	CAS No	Weight-%
sodium fluoride	7681-49-4	0.1-1
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	9002-93-1	0.5

Kit Component **9049: Cytoskeletal/Nuclear Isolation Buffer (CyNIB)**

WARNING: Causes serious eye irritation.

Chemical name	CAS No	Weight-%
sodium dodecyl sulphate	151-21-3	1-3
sodium fluoride	7681-49-4	0.1-1

Kit Component **5871: Protease Inhibitor Cocktail (100X)**

WARNING: Causes serious eye irritation. Causes skin irritation.

Chemical name	CAS No	Weight-%
benzenesulfonyl fluoride, 4-(2-aminoethyl)-, hydrochloride (1:1)	30827-99-7	1-<3

SECTION 4. First-aid measures

Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation persists.
Skin contact	Wash off immediately with soap and plenty of water. If skin irritation occurs, get medical advice/attention.
Inhalation	Move to fresh air.
Ingestion	Clean mouth with water and afterwards drink plenty of water.

Most important symptoms and effects, both acute and delayed

Irritating to eyes and skin. Respiratory irritation. 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. Significant esophageal or gastrointestinal tract irritation or burns may occur following ingestion.

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
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Specific hazards arising from the chemical

Sealed containers may rupture when heated.

Hazardous Combustion Products	Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon oxides (COx). Nitrogen oxides (NOx). Sulfur oxides. Halogenated compounds.
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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	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Other information	No information available.

Environmental precautions

See Section 12 for more information. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Should not be released into the environment. 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	Dike to collect large liquid spills. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

SECTION 7. Handling and storage

Precautions for safe handling

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Avoid breathing vapors or mists. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Ensure adequate ventilation.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions	Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep in properly labeled containers.
Packaging material	No information available.
Incompatible products	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
sodium fluoride	TWA : 2.5 mg/m ³	TWA : 2.5 mg/m ³	IDLH : 250 mg/m ³ TWA : 2.5 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	Safety glasses with side-shields.
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. 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	9041: Cytoplasmic Isolation Buffer (CIB)
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH	7.5
Solubility	Soluble in water

Kit Component	9048: Membrane Isolation Buffer (MIB)
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH	7.5
Solubility	Soluble in water

Kit Component	9049: Cytoskeletal/Nuclear Isolation Buffer (CyNIB)
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH	7.5
Solubility	Soluble in water

Kit Component	5871: Protease Inhibitor Cocktail (100X)
Physical state	Liquid
Appearance	Clear
Color	Colorless
Odor	Odorless

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

Heat

Incompatible Materials

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 potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

Inhalation

There is no data available for this product.

Eye contact

Kit Component
Eye contact

9049: Cytoskeletal/Nuclear Isolation Buffer (CyNIB)
Irritating to eyes

Kit Component
Eye contact

5871: Protease Inhibitor Cocktail (100X)
Severely irritating to eyes

Skin contact

Kit Component
Skin contact

9049: Cytoskeletal/Nuclear Isolation Buffer (CyNIB)
May cause irritation

Kit Component
Skin contact

5871: Protease Inhibitor Cocktail (100X)
Irritating to skin

Ingestion

There is no data available for this product.

Information on toxicological effects

Component Information

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
benzenesulfonyl fluoride, 4-(2-aminoethyl)-, hydrochloride (1:1)	2834 mg/kg (mouse)	-	-
sodium dodecyl sulphate	= 1288 mg/kg (Rat)	= 200 mg/kg (Rabbit)	> 3900 mg/m ³ (Rat) 1 h
sodium fluoride	= 52 mg/kg (Rat)	= 175 mg/kg (Rat)	-
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	= 1800 mg/kg (Rat)	-	-

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

Symptoms

Irritating to eyes and skin. Respiratory irritation. 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. Significant esophageal or gastrointestinal tract irritation or burns may occur following ingestion.

Skin and Eye Corrosion/Irritation

Kit Component	5871: Protease Inhibitor Cocktail (100X)
Serious eye damage/eye irritation	Causes serious eye irritation
Skin corrosion/irritation	Causes skin irritation
Sensitization	No information available
Mutagenic effects	No information available
Carcinogenicity	No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible or confirmed carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	No information available.
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
sodium dodecyl sulphate	EC50 53 mg/L (Desmodesmus subspicatus) 72 h EC50 30 - 100 mg/L (Desmodesmus subspicatus) 96 h EC50 42 mg/L (Desmodesmus subspicatus) 96 h EC50 3.59 - 15.6 mg/L (Pseudokirchneriella subcapitata) 96 h EC50 117 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 8 - 12.5 mg/L (Pimephales promelas) 96 h LC50 4.1 mg/L (Leuciscus idus) 48 h LC50 22.1 - 22.8 mg/L (Pimephales promelas) 96 h LC50 4.3 - 8.5 mg/L (Oncorhynchus mykiss) 96 h LC50 4.62 mg/L (Oncorhynchus mykiss) 96 h LC50 4.2 mg/L (Oncorhynchus mykiss) 96 h LC50 7.97 mg/L (Brachydanio rerio) 96 h LC50 9.9 - 20.1 mg/L (Brachydanio rerio) 96 h LC50 4.06 - 5.75 mg/L (Lepomis macrochirus) 96 h LC50 4.2 - 4.8 mg/L (Lepomis macrochirus) 96 h LC50 4.5 mg/L (Lepomis macrochirus) 96 h LC50 5.8 - 7.5 mg/L (Pimephales promelas) 96 h LC50 10.2 - 22.5 mg/L (Pimephales promelas) 96 h LC50 6.2 - 9.6 mg/L (Pimephales promelas) 96 h LC50 13.5 - 18.3 mg/L (Poecilia reticulata) 96 h LC50 10.8 - 16.6 mg/L (Poecilia reticulata) 96 h LC50 1.31 mg/L (Cyprinus carpio) 96 h LC50 15 - 18.9 mg/L (Pimephales promelas) 96 h	EC50 21.2 mg/L (Daphnia magna) 24 h EC50 1.8 mg/L (Daphnia magna) 48 h
sodium fluoride	EC50 850 mg/L (Desmodesmus subspicatus) 72 h EC50 272 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 530 mg/L (Lepomis macrochirus) 96 h LC50 180 mg/L (Pimephales promelas) 96 h LC50 38 - 68 mg/L (Oncorhynchus mykiss) 96 h LC50 830 mg/L (Lepomis macrochirus) 96 h	EC50 98 mg/L (Daphnia magna) 48 h EC50 338 mg/L (Daphnia magna) 48 h
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	-	LC50 8.9 mg/l (Pimephales promelas) 96 h	EC50 26 mg/l (Daphnia) 48 h

Persistence and degradability No information available

Bioaccumulation

Chemical name	Octanol-Water Partition Coefficient
sodium dodecyl sulphate	1.6

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.

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 not subject to regulation as a hazardous material for shipping.

SECTION 15. Regulatory information

North American Inventory Listing

This product contains a chemical or chemicals included in the Toxic Substances Control Act (TSCA) Chemical Substance Inventory, Domestic Substances List (DSL) and/or Non-Domestic Substances List (NDSL):

Chemical name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
sodium dodecyl sulphate	Listed	Not Listed	Listed	Not Listed
sodium fluoride	Listed	Not Listed	Listed	Not Listed
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	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 %
trisodium tetraoxovanadate	13721-39-6	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
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)
sodium fluoride	1000 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
sodium fluoride	1000 lb	Not Listed

California Proposition 65

This product does not contain any Proposition 65 chemicals.

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
sucrose	Not Listed	Listed	Not Listed
sodium fluoride	Listed	Listed	Listed
tetrasodium pyrophosphate, decahydrate	Listed	Listed	Listed
trisodium tetraoxovanadate	Listed	Not Listed	Not Listed

SECTION 16. Other information

Issuing Date: 2018-05-10

Revision Date: 2024-05-14

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