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

Issuing Date: 2018-04-11 **Version:** 1

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

1.1. Product identifier

Product No	8815
Product name	Active Rac1 Detection Kit
Kit Component	**GST-Human Pak1-PBD** **Rac1 Mouse Antibody** **GDP** **GTP gamma-S** **Glutathione Resin** **SDS Sample Buffer** **Lysis/Binding/Wash Buffer**
Reach registration number	This substance/mixture contains only ingredients which have been registered, or are exempt from registration, according to Regulation (EC) No. 1907/2006.

Contains

Chemical Name	Index No.	CAS No
glycerol (20 - 30%)	Not Listed	56-81-5
trometamol (0 - 10%)	Not Listed	77-86-1
sodium dodecyl sulphate (0 - 10%)	Not Listed	151-21-3
glutathione (0 - 10%)	Not Listed	70-18-8
sodium azide (0 - 10%)	011-004-00-7	26628-22-8
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1) (0 - 10%)	613-167-00-5	55965-84-9

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses For research use only

1.3. Details of the supplier of the safety data sheet

Importer (Applicable in EU only)
Cell Signaling Technology Europe B.V.
Schuttersveld 2
2316 ZA Leiden
The Netherlands
TEL: +31 (0)71 7200 200
FAX: +31 (0)71 891 0098

Manufacturer
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

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 1 - (H318)
Specific target organ toxicity - single exposure (STOT SE)	Category 3 - (H335)

2.2. Label elements

Signal word
Danger

Hazard statement(s)
H315 - Causes skin irritation
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
Precautionary statement(s)
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves and eye/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
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
P310 - Immediately call a POISON CENTER or doctor/physician
P312 - Call a POISON CENTER or doctor if you feel unwell
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 + P364 - Take off contaminated clothing and wash it before reuse
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container to an approved waste disposal plant

2.3. Other hazards

0 % of the mixture consists of ingredient(s) of unknown acute toxicity.
Causes mild skin irritation. Toxic to aquatic life.
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 Name GDP

Chemical Name	CAS No	Weight %	EC No	Classification (1272/2008)	REACH Registration Number
guanosine 5'-(disodium hydrogen pyrophosphate)	7415-69-2	98-100	231-026-2	-	no data available

Kit Component Name GTP gamma-S

Chemical Name	CAS No	Weight %	EC No	Classification (1272/2008)	REACH Registration Number
Guanosine 5'-(trihydrogen diphosphate), monoanhydride with phosphorothioic acid, tetralithium salt	94825-44-2	60-100	305-606-1	STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	no data available

Kit Component Name Glutathione Resin

Chemical Name	CAS No	Weight %	EC No	Classification (1272/2008)	REACH Registration Number
glutathione	70-18-8	0.1-1	200-725-4	-	no data available
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
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)	55965-84-9	<0.0015	-	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Corr. 1B (H314) Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	no data available

Kit Component Name SDS Sample Buffer

Chemical Name	CAS No	Weight %	EC No	Classification (1272/2008)	REACH Registration Number
glycerol	56-81-5	10-20	200-289-5	-	no data available
trometamol	77-86-1	1-3	201-064-4	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)	no data available
sodium dodecyl sulphate	151-21-3	3-5	205-788-1	STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Acute Tox. 4 (H302) Acute Tox. 3 (H311)	no data available

Kit Component Name Lysis/Binding/Wash Buffer

Chemical Name	CAS No	Weight %	EC No	Classification (1272/2008)	REACH Registration Number
glycerol	56-81-5	3-5	200-289-5	-	no data available
Nonylphenol, ethoxylated	9016-45-9	0.1-1	-	STOT SE 3 (H335) Eye Dam. 1 (H318) Acute Tox. 4 (H302) Aquatic Acute 1 (H400)	no data available

Kit Component Name GST-Human Pak1-PBD, Rac1 Mouse Antibody

This product does not contain substances at concentrations requiring disclosure under (EC) No. 1907/2006 (REACH).

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice Use first aid treatment according to the nature of the injury. When symptoms persist or in all cases of doubt seek medical advice.

Inhalation IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Skin contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If symptoms persist, call a physician.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Immediate medical attention is required.

Ingestion Do not induce vomiting without medical advice. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed

Corrosive to the eyes and may cause severe damage including blindness. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Skin irritation. Respiratory irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available.

5.2. Special hazards arising from the substance or mixture

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

Hazardous Combustion Products Carbon oxides (COx). Nitrogen oxides (NOx). Sulfur oxides. Phosphorus oxides. Hazardous metal fumes and oxides.

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 Use personal protective equipment. Avoid contact with skin, eyes and clothing. 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.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.

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 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

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Use only in area provided with appropriate exhaust ventilation. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Provide regular cleaning of equipment, work area and clothing.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Protect from light.

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
glycerol		STEL 30 mg/m³ TWA 10 mg/m³	TWA 10 mg/m³	TWA 10 mg/m³	Ceiling / Peak: 400 mg/m³ TWA: 200 mg/m³
sodium azide	TWA 0.1 mg/m³ STEL 0.3 mg/m³ S*	STEL 0.3 mg/m³ TWA 0.1 mg/m³ Skin	TWA 0.1 mg/m³ STEL 0.3 mg/m³ P*	TWA 0.1 mg/m³ STEL 0.3 mg/m³ S*	TWA: 0.2 mg/m³ Ceiling / Peak: 0.4 mg/m³
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)					Ceiling / Peak: 0.4 mg/m³ TWA: 0.2 mg/m³

Chemical Name	Italy	Portugal	Netherlands	Finland	Denmark
glycerol		TWA 10 mg/m³		TWA 20 mg/m³	
sodium azide	TWA 0.1 mg/m³ STEL 0.3 mg/m³ Pelle*	TWA 0.1 mg/m³ STEL 0.3 mg/m³ Ceiling 0.29 mg/m³ Ceiling 0.11 ppm C(A4) P*	Huid* STEL 0.3 mg/m³ TWA 0.1 mg/m³	TWA 0.1 mg/m³ STEL 0.3 mg/m³ iho*	TWA 0.1 mg/m³ H*

Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
glycerol		SS-C** TWA 50 mg/m³ STEL 100 mg/m³	TWA 10 mg/m³		TWA 10 mg/m³ STEL 30 mg/m³
sodium azide	H* STEL 0.3 mg/m³ TWA 0.1 mg/m³	TWA 0.2 mg/m³ STEL 0.4 mg/m³	TWA 0.1 mg/m³ STEL 0.3 mg/m³	TWA 0.1 mg/m³ STEL 0.1 mg/m³	TWA 0.1 mg/m³ STEL 0.3 mg/m³ Skin
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	H* TWA 0.05 mg/m³ Sh/Sah**	SS-C** S+ TWA 0.2 mg/m³			

8.2. Exposure controls

Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	Safety glasses with side-shields
Skin protection	
Hand protection	Impervious gloves.
Other	Wear suitable protective clothing.
Respiratory protection	In case of inadequate ventilation wear respiratory protection.

Environmental Exposure Controls

Do not allow material to contaminate ground water system.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Kit Component	**GST-Human Pak1-PBD**
Physical state	Liquid
Appearance	Clear
Color	Colorless
Odor	Odorless
pH VALUE	7.5

Kit Component	**Rac1 Mouse Antibody**
Physical state	Liquid
Appearance	Clear
Color	Colorless
Odor	Odorless

Kit Component	**GDP**
Physical state	Solid
Color	White

Kit Component	**GTP gamma-S**
Physical state	Solid
Appearance	Powder
Color	White
Odor	Unpleasant

Kit Component	**Glutathione Resin**
Physical state	Liquid
Appearance	Suspension
Color	Off-white
Odor	Odorless

Kit Component	**SDS Sample Buffer**
Physical state	Liquid
Color	Blue
Odor	Odorless
pH VALUE	6.8

Kit Component	**Lysis/Binding/Wash Buffer**
Physical state	Liquid
Appearance	Clear
Color	Colorless
Odor	Odorless
pH VALUE	7.1 - 7.3

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

None known based on information supplied.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
glycerol	= 12600 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 570 mg/m³ (Rat) 1 h
trometamol	5900 mg/kg (Rat)	-	-
sodium dodecyl sulphate	= 1288 mg/kg (Rat) = 1783 mg/kg (Rat)	= 200 mg/kg (Rabbit)	> 3900 mg/m³ (Rat) 1 h
Nonylphenol, ethoxylated	= 1310 mg/kg (Rat)	= 1780 mg/kg (Rabbit)	-
sodium azide	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit) = 50 mg/kg (Rat)	-
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)	= 53 mg/kg (Rat) = 481 mg/kg (Rat)	-	= 1.23 mg/L (Rat) 4 h

Information on likely routes of exposure

Inhalation

Kit Component GTP gamma-S
Inhalation May cause irritation of respiratory tract

Eye contact

Kit Component	Lysis/Binding/Wash Buffer
Eye contact	Expected to be an irritant based on components
Kit Component	SDS Sample Buffer
Eye contact	Corrosive to the eyes and may cause severe damage including blindness
Kit Component	GTP gamma-S
Eye contact	May cause irritation

Skin contact

Kit Component	SDS Sample Buffer
Skin contact	Expected to be an irritant based on components
Kit Component	GTP gamma-S
Skin contact	Irritating to skin

Ingestion

Kit Component	SDS Sample Buffer
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea

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

Symptoms Corrosive to the eyes and may cause severe damage including blindness Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting Skin irritation Respiratory irritation

Skin and Eye Corrosion/Irritation

Kit Component	Lysis/Binding/Wash Buffer
Serious eye damage/eye irritation	Irritating to eyes
Kit Component	SDS Sample Buffer
Skin corrosion/irritation	Irritating to skin
Serious eye damage/eye irritation	Risk of serious damage to eyes

Sensitization No information available

Mutagenic effects No information available

Carcinogenic effects No information available.

Reproductive toxicity No information available.

Systemic Target Organ Toxicity (STOT)

Kit Component	GTP gamma-S
STOT - single exposure	May cause disorder and damage to the Respiratory system

Aspiration Hazard No information available.

SECTION 12: Ecological information

12.1. Toxicity

Product Information No information available

Harmful to aquatic life

Component Information No information available

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
glycerol	-	LC50 51 - 57 mL/L (Oncorhynchus mykiss) 96 h	EC50 500 mg/L (Daphnia magna) 24 h
trometamol	-	-	NOEC >100 mg/L (Selenastrum capricornutum) 96 h
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
Nonylphenol, ethoxylated	-	LC50 1.0 - 9.7 mg/L (Lepomis macrochirus) 96 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
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)	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

No information available.

12.3. Bioaccumulative potential

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Kit Component Glutathione Resin
Bioaccumulation Most components of this material are unlikely to bioaccumulate but some have not been tested

Kit Component Lysis/Binding/Wash Buffer

Bioaccumulation	Does not bioaccumulate
Kit Component	SDS Sample Buffer
Bioaccumulation	Not likely to bioaccumulate

Chemical Name	Octanol-Water Partition Coefficient
glycerol	-1.76
sodium dodecyl sulphate	1.6

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

No information available

Chemical Name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Nonylphenol, ethoxylated	Group III Chemical	-	-

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

IMDG/IMO

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	None
14.6 Special precautions for user	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not regulated

ADR/RID

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	None
14.6 Special precautions for user	None

IATA

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated

14.4 Packing group	Not regulated
14.5 Environmental hazards	None
14.6 Special precautions for user	None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Candidate List of Substances of Very High Concern for Authorization Information

This product does not contain Substances of Very High Concern (SVHC).

SEVESO Directive Information

This product does not contain substances identified in the SEVESO Directive.

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

H315 - Causes skin irritation
H318 - Causes serious eye damage
H335 - May cause respiratory irritation

Classification procedure: Expert judgment and weight of evidence determination.
Issuing Date: 2018-04-11

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.