

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

Issuing Date: 2017-08-20	Revision Date: 2024-10-24	Version: 2
SECTION 1. Identification		
Product identifier		
Product No	13547	
Product name	Griess Reagent Nitrite Measurement Kit	
Kit Component	13549: 0.1 M Nitrite Standard 13424: Reagent A: Sulfanilamide Solution 13371: Reagent B: NED Solution	
<u>Hazardous Components</u> 13424: Reagent A: Sulfanilamide S	olution	
UN number	UN1805	
Recommended use of the chemica	I and restrictions on use	
Identified uses Manufacturer, importer, supplier	This product is intended for research purposes only.	
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 Email address Emergency telephone number	www.cellsignal.com support@cellsignal.com In case of emergency call CHEMTREC 1-800-424-9300	

SECTION 2. Hazard(s) identification

Classification

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

Acute inhalation toxicity	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

GHS Label elements, including precautionary statements



Signal Word Danger

Hazard statement(s)

Harmful if inhaled. Causes severe skin burns and eye damage.

Precautionary Statement(s)

Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing 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

13549: 0.1 M Nitrite Standard

Chemical name	CAS No	Weight-%
sodium nitrite	7632-00-0	0.31

Kit Component

13424: Reagent A: Sulfanilamide Solution

DANGER: Causes severe skin burns and eye damage. Harmful if inhaled.

Chemical name	CAS No	Weight-%
phosphoric acid	7664-38-2	5
sulphanilamide	63-74-1	1

Kit Component

13371: Reagent B: NED Solution

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

Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.

Skin contact	Immediate medical attention is required. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Inhalation	Move to fresh air. Immediate medical attention is required. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Ingestion	Clean mouth with water. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Causes severe skin burns and eye damage. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Advice for emergency responders

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

SECTION 5. Fire-fighting measures

Extinguishing media

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

Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Hazardous Combustion	Carbon oxides (COx). Nitrogen oxides (NOx). Hydrogen chloride
Products	

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. Use personal protective equipment. Avoid contact with
	skin, eyes and clothing. Keep people away from and upwind of spill/leak.
Other information	Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Do not allow material to contaminate ground water system. Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Do not flush into surface water or sanitary sewer system.

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	Dam up. Soak up with inert absorbent material. Take up mechanically, placing in
	appropriate containers for disposal. Clean contaminated surface thoroughly.

SECTION 7. Handling and storage

Precautions for safe handling

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage	Keep container tightly closed in a dry and well-ventilated place. Keep in properly labeled
conditions	containers.
Packaging material	No information available
Incompatible products	Incompatible with oxidizing agents, Bases, Acids, Halogens, Acid chlorides, Acid anhydrides.

SECTION 8. Exposure controls/personal protection

Control parameters

Occupational exposure limit values			
Chemical name	ACGIH TLV	OSHA PEL	NIOSH REL
phosphoric acid	STEL: 3 mg/m ³ TWA: 1 mg/m ³	TWA : 1 mg/m ³	IDLH : 1000 mg/m ³ TWA : 1 mg/m ³ STEL: 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 insufficient ventilation wear suitable respiratory equipment.
Hygiene measures	When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. For environmental protection, remove and wash all contaminated protective equipment before re-use. Wear suitable gloves and eye/face protection. 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	13549: 0.1 M Nitrite Standard
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH	6.5
Kit Component	13424: Reagent A: Sulfanilamide Solution
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH	1.4
Kit Component	13371: Reagent B: NED Solution
Physical state	Liquid
pH	2.5

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

Exposure to air or moisture over prolonged periods

Incompatible Materials

Incompatible with oxidizing agents, Bases, Acids, Halogens, Acid chlorides, Acid anhydrides.

Hazardous Decomposition Products

None known based on information supplied

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

Kit Component	13424: Reagent A: Sulfanilamide Solution
Inhalation	Corrosive to respiratory system
Eye contact	
Kit Component	13424: Reagent A: Sulfanilamide Solution
Eye contact	Corrosive to the eyes and may cause severe damage including blindness
Skin contact	
Kit Component	13424: Reagent A: Sulfanilamide Solution
Skin contact	Corrosive to skin
Ingestion	
Kit Component	13424: Reagent A: Sulfanilamide Solution
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Information on toxicological effects

Component Information

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation	
phosphoric acid	= 1530 mg/kg (Rat)	= 2740 mg/kg (Rabbit)	> 850 mg/m³ (Rat)1 h	
sulphanilamide	= 3900 mg/kg (Rat)	-	-	
	= 1300 mg/kg (Rabbit)			
sodium nitrite	= 85 mg/kg (Rat)	-	5.5 mg/L (Rat) 4h	

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

Symptoms

Causes severe skin burns and eye damage. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate.

Skin and Eye Corrosion/Irritation

Kit Component Serious eye damage/eye irritation Skin corrosion/irritation	13424: Reagent A: Sulfanila Risk of serious damage to eye Causes severe burns	mide Solution es	
Sensitization	No information available		
Mutagenic effects	No information available		
Carcinogenicity	IARC classification of this sub	stance applies only to consu	Imption
Chemical name	IARC	NTP	OSHA

Chemical name	IARC	NTP	OSHA
sodium nitrite 7632-00-0	Group 2A	-	Х
Legend:			

IARC: (International Agency for Rese	earch on Cancer) Group 2A - Probably Carcinogenic to Humans
Reproductive toxicity	No information available.
Systemic Target Organ Toxicity (STOT)	No information available
Aspiration Hazard	No information available.

SECTION 12. Ecological information

Ecotoxicity

Product Information Component Information

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
sodium nitrite	-	LC50 0.092 - 0.13 mg/L (Oncorhynchus mykiss) 96 h	-

Persistence and degradability

No information available

Bioaccumulation

Chemical name	Octanol-Water Partition Coefficient
sodium nitrite	-3.7

Mobility

No information available

Other adverse effects

No information available.

SECTION 13. Disposal considerations

Waste Disposal Methods

Should not be released into the environment. 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

DOT

UN number Transport hazard class(es) Packing group	UN1805 8 III	
UN number	UN1805	

UN numberUN1805UN proper shipping namePhosphoric acid, solution

Transport hazard class(es)8Packing groupIII

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
phosphoric acid	Listed	Not Listed	Listed	Not Listed
sulphanilamide	Listed	Not Listed	Listed	Not Listed
sodium nitrite	Listed	Section 5: 1 %	Listed	Not Listed
		Section 5(a)(2): 1 %		

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical name	CAS No	SARA 313 - Threshold Values %	
sodium nitrite	7632-00-0	1.0	

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
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)
phosphoric acid	5000 lb	Not Listed	Not Listed	Listed	Not Listed
sodium nitrite	100 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
phosphoric acid	5000 lb	Not Listed
sodium nitrite	100 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
water	Not Listed	Not Listed	Listed
phosphoric acid	Listed	Listed	Listed
sodium nitrite	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