

# ThermoFisher SCIENTIFIC

## Material Safety Data Sheet

Creation Date 12-Mar-2010

Revision Date 12-Mar-2010

Revision Number 1

### 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>	<b>CK-NAC Reagent</b>
<b>Cat No.</b>	<b>TR14010, BU1401-25LBP, BU1401-5LBP, S10143, E10141, 210142</b>
<b>Synonyms</b>	Creatine Kinase Reagent; Creatine Kinase (activated by N-acetyl cysteine) Reagent; CK-NAC (Bis-Tris) Reagent
<b>Recommended Use</b>	In vitro diagnostic
<b>Company</b>	<b>Emergency Telephone Number</b>
Fisher Diagnostics	Chemtrec US: (800) 424-9300
A Division of Fisher Scientific Company, LLC	Chemtrec EU: (202) 483-7616
A Part of Thermo Fisher Scientific, Inc.	
8365 Valley Pike	
Middletown, VA 22645-1905	
Tel: (800) 528-0494	

### 2. HAZARDS IDENTIFICATION

#### CAUTION!

#### Emergency Overview

Handle as potentially infectious. Handle in accordance with good industrial hygiene and safety practice. Causes eye, skin, and respiratory tract irritation. The toxicological properties have not been fully investigated.

**Appearance** White

**Physical State** Powder

**odor** odorless

**Target Organs**

Respiratory system, Eyes, Skin, Liver, Kidney, Blood

#### Potential Health Effects

#### Acute Effects

#### Principle Routes of Exposure

**Eyes**

Irritating to eyes.

**Skin**

Irritating to skin. May be harmful in contact with skin.

**Inhalation**

Irritating to respiratory system. May be harmful if inhaled.

**Ingestion**

May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Chronic Effects** Experiments have shown reproductive toxicity effects on laboratory animals. May cause adverse liver effects. May cause adverse kidney effects.

See Section 11 for additional Toxicological information.

**Aggravated Medical Conditions** No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Haz/Non-haz

Component	CAS-No	Weight %
Bis-TRIS	6976-37-0	> 30%
Glycine, N-[imino(phosphonoamino)methyl]-N-methyl-	67-07-2	> 20%
Glucose	50-99-7	< 10%
L-Cysteine, N-acetyl-	616-91-1	< 10%
5'-Adenylic acid	61-19-8	< 10%
Adenosine 5'-(trihydrogen diphosphate), 2'-(dihydrogen phosphate), 5'->5'-ester with 3-(aminocarbonyl)-1-.beta.-D-ribofuranosylpyridinium hydroxide, inner salt, disodium salt	24292-60-2	< 5%
Acetate, magnesium, tetrahydrate	16674-78-5	< 5%
Adenosine 5"-diphosphate monopotassium salt	72696-48-1	< 5%
Succinic acid	110-15-6	< 5%
Ethylenediaminetetraacetic acid, disodium salt dihydrate	6381-92-6	< 2%
Bovine Serum Albumin	9048-46-8	< 2%
Adenosine 5'-(hexahydrogen pentaphosphate), 5'.fwdarw.'-ester with adenosine, trilithium salt	75522-97-3	< 2%
Kinase (phosphorylating), hexo-	9001-51-8	< 2%
Dehydrogenase, glucose 6-phosphate	9001-40-5	< 2%

### 4. FIRST AID MEASURES

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

**Inhalation** Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention.

**Ingestion** Do not induce vomiting. Obtain medical attention.

**Notes to Physician** Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Flash Point** Not applicable  
**Method** No information available.

**Autoignition Temperature** No information available.

**Explosion Limits**

**Upper** No data available  
**Lower** No data available

<b>Suitable Extinguishing Media</b>	Substance is nonflammable; use agent most appropriate to extinguish surrounding fire..
<b>Unsuitable Extinguishing Media</b>	No information available.
<b>Hazardous Combustion Products</b>	No information available.
<b>Sensitivity to mechanical impact</b>	No information available.
<b>Sensitivity to static discharge</b>	No information available.

**Specific Hazards Arising from the Chemical**

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

**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

**NFPA**                      **Health** 2                      **Flammability** 0                      **Instability** 0                      **Physical hazards** N/A

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing.
<b>Environmental Precautions</b>	Should not be released into the environment.
<b>Methods for Containment and Clean Up</b>	Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Handle in accordance with good industrial hygiene and safety practice. Handle as potentially infectious. Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Do not breathe dust. Do not get in eyes, on skin, or on clothing.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep at temperatures between 2° and 8 °C.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Measures** Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

*NIOSH IDLH: Immediately Dangerous to Life or Health*

### Personal Protective Equipment

#### **Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166

#### **Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure

#### **Respiratory Protection**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Powder
<b>Appearance</b>	White
<b>odor</b>	odorless
<b>Odor Threshold</b>	No information available.
<b>pH</b>	6.70 - 6.90 @ 20°C
<b>Vapor Pressure</b>	No information available.
<b>Vapor Density</b>	No information available.
<b>Viscosity</b>	No information available.
<b>Boiling Point/Range</b>	Not applicable
<b>Melting Point/Range</b>	No information available.
<b>Decomposition temperature °C</b>	No information available.
<b>Flash Point</b>	Not applicable
<b>Evaporation Rate</b>	No information available.
<b>Specific Gravity</b>	No information available.
<b>Solubility</b>	Miscible with water
<b>log Pow</b>	No data available

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Avoid dust formation. Incompatible products. Excess heat.
<b>Incompatible Materials</b>	Strong oxidizing agents
<b>Hazardous Decomposition Products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Nitrogen oxides (NO <sub>x</sub> )
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur
<b>Hazardous Reactions .</b>	None under normal processing.

## 11. TOXICOLOGICAL INFORMATION

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### Acute Toxicity

**Product Information** No acute toxicity information is available for this product

### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glucose	25800 mg/kg ( Rat )	Not listed	Not listed
L-Cysteine, N-acetyl-	5050 mg/kg ( Rat )	Not listed	Not listed
Succinic acid	2260 mg/kg ( Rat )	Not listed	Not listed

**Irritation** Irritating to eyes, respiratory system and skin

**Toxicologically Synergistic Products** No information available.

### Chronic Toxicity

**Carcinogenicity** There are no known carcinogenic chemicals in this product

**Sensitization** No information available.

**Mutagenic Effects** Mutagenic effects have occurred in humans.

**Reproductive Effects** Experiments have shown reproductive toxicity effects on laboratory animals.

**Developmental Effects** No information available.

**Teratogenicity** Teratogenic effects have occurred in experimental animals..

**Other Adverse Effects** The toxicological properties have not been fully investigated.. See actual entry in RTECS for complete information.

**Endocrine Disruptor Information** No information available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Do not empty into drains.

**Persistence and Degradability** No information available

**Bioaccumulation/ Accumulation** No information available

**Mobility** No information available

## 13. DISPOSAL CONSIDERATIONS

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**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

### 14. TRANSPORT INFORMATION

**DOT** Not regulated

**TDG** Not regulated

**IATA** Not regulated

**IMDG/IMO** Not regulated

### 15. REGULATORY INFORMATION

#### International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Bis-TRIS	X	-	X	230-237-7	-		-	-	X	X	KE-20636 X
Glycine, N-[imino(phosphonoamino)methyl]-N-methyl-	X	X	-	200-643-9	-		-	-	-	-	-
Glucose	X	X	-	200-075-1	-		X	X	X	X	KE-17727 X
L-Cysteine, N-acetyl-	X	X	-	210-498-3	-		X	X	X	X	KE-00114 X
5'-Adenylic acid	X	X	-	200-500-0	-		X	X	X	X	-
Adenosine 5'-(trihydrogen diphosphate), 2'-(dihydrogen phosphate), 5'->5'-ester with 3-(aminocarbonyl)-1-.beta.-D-ribofuranosylpyridinium hydroxide, inner salt, disodium salt	-	-	-	246-129-8	-		-	X	-	X	-
Acetate, magnesium, tetrahydrate	-	-	-	-	-		X	-	X	X	-
Succinic acid	X	X	-	203-740-4	-		X	X	X	X	KE-13150 X

15. REGULATORY INFORMATION											
Ethylenediaminetetraacetic acid, disodium salt dihydrate	-	X	-	-	-		X	X	X	X	-
Bovine Serum Albumin	XU	X	-	232-936-2	-		X	-	X	X	KE-05-0011 X
Adenosine 5'-(hexahydrogen pentaphosphate), 5'-fwdarw.'-ester with adenosine, trillithium salt	-	X	-	278-237-6	-		-	-	-	-	-
Kinase (phosphorylating), hexo-	XU	X	-	232-611-5	-		-	-	X	-	-
Dehydrogenase, glucose 6-phosphate	XU	X	-	232-602-6	-		X	-	X	X	KE-09578 X

**Legend:**

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

**U.S. Federal Regulations**

**TSCA 12(b)** Not applicable

**SARA 313**

Not applicable

**SARA 311/312 Hazardous Categorization**

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

**Clean Water Act**

Not applicable

**Clean Air Act**

Not applicable

**OSHA**

Not applicable

**CERCLA**

Not Applicable

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**State Right-to-Know**

Not applicable

**U.S. Department of Transportation**

Reportable Quantity (RQ): N  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class**

D3 Biohazardous infectious materials

**16. OTHER INFORMATION**

<b>Prepared By</b>	Regulatory Affairs Thermo Fisher Scientific Tel: (412) 490-8929
<b>Creation Date</b>	12-Mar-2010
<b>Print Date</b>	12-Mar-2010
<b>Revision Summary</b>	****, and red text indicates revision

**Disclaimer**

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

**End of MSDS**