Hazard Overview

Version 6.18
Revision Date 08/10/2026
Print Date 08/11/2026

SECTION 1. IDENTIFICATION

1.1 Product identifiers

Product name : Thioredoxin Reductase Assay Kit

Product Number : CS0170
Brand : Sigma

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

Identified uses : Laboratory chemicals, Synthesis of substances

Restrictions on use : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
SPRUCE ST 3050
63103 St. Louis

Telephone :(314) 771-5765
Telefax: (800) 325-5052

1.4 Emergency telephone number

Emergency Phone # : 800 424 9300 (CHEMTREC) 24/7
+1 703 527 3887 (CHEMTREC) 24/7

This is a summary SDS for a kit. For the full SDS for each of the components listed in section 16 please visit our website.

This is a summary SDS for a kit. For the full SDS for each of the components listed in section 16 please visit our website.

The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards for the product as supplied

Flammable liquids	:	Category 4
Eye irritation	:	Category 2A
Reproductive toxicity	:	Category 2
Specific target organ toxicity - single exposure	:	Category 2 (Eyes, Central nervous system)
Specific target organ toxicity - repeated exposure (Inhalation)	:	Category 2 (Respiratory Tract)

Other hazards

None known.

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements :
H227 Combustible liquid.
H319 Causes serious eye irritation.
H361 Suspected of damaging fertility or the unborn child.
H371 May cause damage to organs (Eyes, Central nervous system).
H373 May cause damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

Response:

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 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 Store in a well-ventilated place.
P405 Store locked up.

Disposal:

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Please refer to component Safety Data Sheet and/or to Section 16 Kit components

SECTION 4. FIRST AID MEASURES

Refer to component SDS

SECTION 5. FIREFIGHTING MEASURES

Refer to component SDS

SECTION 6. ACCIDENTAL RELEASE MEASURES

Refer to component SDS

SECTION 7. HANDLING AND STORAGE

For precautions see section 2 GHS label elements

Advice on protection against fire and explosion	:	Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.
Advice on safe handling	:	Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.
Further information on	:	Tightly closed.

The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

storage conditions

Storage class	:	10, Combustible liquids
Recommended storage temperature	:	-4 °F / -20 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Refer to component SDS

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Refer to component SDS

SECTION 10. STABILITY AND REACTIVITY

Refer to component SDS

SECTION 11. TOXICOLOGICAL INFORMATION

Refer to component SDS

SECTION 12. ECOLOGICAL INFORMATION

Refer to component SDS

SECTION 13. DISPOSAL CONSIDERATIONS

Refer to component SDS

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	:	UN 3316
Proper shipping name	:	Chemical kit
Class	:	9
Packing group	:	II
Labels	:	Class 9 - Miscellaneous dangerous substances and articles
Packing instruction (cargo aircraft)	:	960
Packing instruction (passenger aircraft)	:	960

IMDG-Code

UN number	:	UN 3316
Proper shipping name	:	CHEMICAL KIT

The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

Class	:	9
Packing group	:	II
Labels	:	9
EmS Code	:	F-A, S-P
Marine pollutant	:	no

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

National Regulations

49 CFR

UN/ID/NA number	:	UN 3316
Proper shipping name	:	Chemical kit
Class	:	9
Packing group	:	II
Labels	:	Class 9 - Miscellaneous dangerous substances and articles
ERG Code	:	171
Marine pollutant	:	no
Poison Inhalation Hazard	:	No

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

SARA 311/312 Hazards	:	Chronic Health Hazard

SECTION 16. OTHER INFORMATION

Kit Components:

Assay Buffer 5X for Thioredoxin Reductase Assay Kit	Sigma	A4478
Thioredoxin Reductase	Sigma	T9074
Thioredoxin Reductase Inhibitor Solution	Sigma	T9199
5,5'-Dithiobis(2-nitrobenzoic acid)	Sigma	D8130
NADPH tetrasodium salt	Sigma	MUS84
Dimethyl sulfoxide	Sigma	D8418

The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); LSPN - List of Hazardous Notified Substances (Chile); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.
Copyright 2025 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.
The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above

The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.
Copyright 2025 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

Revision Date : 08/10/2026

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact mlsbranding@sial.com.

US / EN

The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

Kit Components:

Assay Buffer 5X for Thioredoxin Reductase Assay Kit					
Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma - A4478		Warning	May cause damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.	Do not breathe mist or vapours. Get medical advice/ attention if you feel unwell. Dispose of contents/ container to an approved waste disposal plant.	

Thioredoxin Reductase					
Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma - T9074					No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

Thioredoxin Reductase Inhibitor Solution					
Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma - T9199		Warning	Combustible liquid. Suspected of damaging fertility or the unborn child.	Obtain special instructions before use. IF exposed or concerned: Get medical advice/ attention. Store in a well-ventilated place. Dispose of contents/ container to an approved waste	

The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

				disposal plant. Do not handle until all safety precautions have been read and understood. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. Store locked up. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear protective gloves/ protective clothing/ eye protection/ face protection.	

5,5′-Dithiobis(2-nitrobenzoic acid)					
Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma - D8130					No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

NADPH tetrasodium salt					
Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma - MUS84		Warning	Causes serious eye irritation. May cause damage to organs (Eyes, Central nervous system).	Do not breathe dust. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if	

The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

				present and easy to do. Continue rinsing. Store locked up. Dispose of contents/ container to an approved waste disposal plant. Wash skin thoroughly after handling. IF exposed or concerned: Call a POISON CENTER/ doctor. Do not eat, drink or smoke when using this product. If eye irritation persists: Get medical advice/ attention. Wear eye protection/ face protection.	

Dimethyl sulfoxide					
Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma - D8418		Warning	Combustible liquid.	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. Store in a well-ventilated place. Dispose of contents/ container to an approved waste	

The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada

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

The life science business of Merck KGaA, Darmstadt, Germany
operates as MilliporeSigma in the US and Canada