

Material Safety Data Sheet

Section 1: Product Information		
Product Name: NWLSS™ Glutathione Assay		
Product Number: NWK-GSH01		
Manufacturer's Information:		
Company Name:	Northwest Life Science Specialties, LLC	
Address:	5131 NE 94th Avenue Vancouver, WA 98683	
Emergency Phone:	888-449-3091, 360-449-3091	
Section 2: Components		
<u>Part Description</u>	<u>Quantity</u>	
NADPH: β-Nicotinamide adenine dinucleotide phosphate, reduced.	2 x 6 mL	
Assay Buffer: Potasium Phosphate buffer with EDTA	1 x 125 mL	
NADPH Diluent: Tris Base with Mannitol;	2 x 7.5 mg	
DTNB 5-5'-Dithiobis(2-nitrobenzoic acid) in phosphate buffer with EDTA	1 x 11 mL	
GR Enzyme: Glutathione reductase in Assay Buffer with protein stabilizer	1 x 11 mL	
Calibrators: Glutathione disulfide in Assay Buffer (0-20 μM GSH)	3 x 1 mL.	
Section 3: Hazardous Ingredients		
<u>Known Hazardous Components:</u>	<u>CAS Number</u>	<u>Percent</u>
β-Nicotinamide adenine dinucleotide phosphate, reduced	2646-71-1	NA
Potassium Phosphate, Dibasic	7758-11-4	1.0%
Sodium Dihydrogen Phosphate Monohydrate	10049-21-5	0.6%
Ethylenediaminetetraacetic Acid (EDTA)	6381-92-6	0.1%
Tris (Hydroxymethyl) Aminomethane	77-86-1	0.1%
D(-) – Mannitol	69-65-8	1.8%
5, 5'-Dithio-bis-(2-Nitrobenzoic Acid)	69-78-3	0.1%
Glutathione Oxidized	27025-41-8	0.1%
Section 4: Fire and Explosion Data		
None of the components of this product pose a significant risk in case of fire. Fire fighting media should be selected as appropriate to surrounding fire conditions. Firefighters should wear suitable protective gear to limit exposure possibilities including inhalation.		
Section 5: Stability and Reactivity		
The unopened product is stable until the date indicated on the label if stored as specified. Individual and reconstituted components are stable as specified in the product insert. There are no known hazardous reactions between these components.		

Section 6: Toxicological Information

β-Nicotinamide adenine dinucleotide

Acute Effects: Mild Irritant. May irritate eyes, mucous membranes and upper respiratory Tract.

May be harmful if absorbed through the skin, inhaled or swallowed

Potassium Phosphate, Dibasic

Acute Effects: Mild Irritant

Chronic Effects: No known chronic toxicity.

Sodium Dihydrogen Phosphate Monohydrate

Acute Effects: Mild Irritant

Chronic Effects: No known chronic toxicity.

Ethylenediaminetetraacetic Acid

<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
LD50	>2000 mg/kg	Oral	Rat

Chronic Effects: Mutagenic

<u>Test</u>	<u>Dose</u>	<u>Cell Type</u>	<u>Species</u>
Cytogenic Analysis	200 mg/L	Lung	Hamster

Tris (Hydroxymethyl) Aminomethane

<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
LD50	5900 mg/kg	Oral	Rat
LD50	1800 mg/kg	IV	Rat

Acute Effects: Mild Irritant

Irritating to eyes, respiratory system and skin.

May be harmful if swallowed or absorbed through the skin.

D(-) – Mannitol

<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
LD50	13500 mg/kg	Oral	Rat
LD50	9690 mg/kg	IV	Rat

Acute Effects: Mild Irritant

Irritating to eyes, respiratory system and skin.

May be harmful if swallowed or absorbed through the skin.

Chronic Effects: Mutagenic

<u>Test</u>	<u>Dose</u>	<u>Cell Type</u>	<u>Species</u>
DNA Inhibition	50 mMol/L	Lymphocyte	Human

5, 5'-Dithio-bis-(2-Nitrobenzoic Acid)

<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
LD50	2080 mg/kg	IP	Mouse

Acute Effects: Mild Irritant

Irritating to eyes, respiratory system and skin.

May be harmful if swallowed or absorbed through the skin.

Glutathione Oxidized

<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
LD50	>5000 mg/kg	Oral	Mouse
LD50	>2 g/kg	IV	Mouse

<p>Target Organs or Systems: Heart, Liver, Nervous System</p> <p>Acute Effects: Moderate irritant</p> <p style="padding-left: 40px;">Irritating to eyes, respiratory system and skin.</p> <p style="padding-left: 40px;">May cause nausea, headache and vomiting.</p> <p>Chronic Effects: Carcinogen-This component is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP or EPA classification</p>	
Section 7: Preventive Measures / Exposure Control	
<p>The physical, chemical and toxicological properties of these components have not been fully investigated. It is recommended that laboratory personnel minimize direct skin or eye contact by following standard laboratory safety procedures when handling this product. Standard safety procedures should include wearing OSHA approved safety glasses, gloves and protective clothing.</p>	
Section 8: First Aid Measures	
<u>Skin Exposure</u>	Remove any contaminated clothing. Flush affected area with copious amounts of water for at least 15 minutes then wash thoroughly. If irritation persists, contact a physician to seek medical advice.
<u>Eye Exposure</u>	If wearing contact lenses, remove them. Flush with copious amounts of water for at least 15 minutes.
<u>Ingestion</u>	If swallowed and individual is conscious, wash out mouth with water. Contact a physician to seek medical advice.
<u>Inhalation</u>	Move to fresh air. If difficulty breathing, oxygen may be administered. If breathing stops, administer artificial respiration and seek emergency medical assistance.
Section 9: Accidental Release / Spillage Measures	
<p>Ventilate area. Shut off all sources of ignition. Wear appropriate protective gear. Wipe or pick-up spilled material, place in sealed container if necessary, dispose of in accordance with federal, state, and local regulations. Wash spill site thoroughly after material pick-up is complete.</p>	
Section 10: Handling and Storage	
<p>This product should be stored as recommended on the product label. All components should be kept in tightly closed containers. Refer to the Storage section of the product insert for additional information. This product should only be handled and used by qualified, trained professional laboratory personnel.</p>	
Section 11: Other Information	
<p>This information is believed to be correct however does not claim to be all inclusive and is intended as a general guide only. Northwest Life Science Specialties, LLC shall not be held liable for any damage resulting from handling of or contact with this product or components therein. The burden of safe use of this and other products used in connection with this product rests solely with the user.</p>	