
1. IDENTIFICATION**Product Identification**

Product Name Protein Oxidation (Carbonyl Content)
Assay Kit (Colorimetric)
Catalog Number MA-OxiC-C

Usage

This product is furnished for LABORATORY RESEARCH USE ONLY. Not for diagnostic or therapeutic use.

Supplier Identification

Company RayBiotech, Inc.
3607 Parkway Lane, Suite 100
Peachtree Corners, GA
30092 USA
Telephone 1-888-494-8555 (Toll Free); 770-729-2992
Fax 770-206-2393
Website www.RayBiotech.com
Email info@raybiotech.com

Emergency Telephone Number

Emergency Phone # 1-888-494-8555

2. HAZARDS IDENTIFICATION**Hazardous Ingredients**

1. The DNPH Solution.
2. The Acid Solution contains Hydrochloric Acid.
3. The TCA Solution.
4. The Guanidine Solution contains Guanidine Hydrochloride.
5. The Wash Buffer I contains Ethanol.
6. The Wash Buffer II contains Ethyl Acetate.

OSHA/HCS status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

DNPH Solution: Flammable solid, Category 2 (H228), Acute toxicity, Oral, Category 4 (H302).

Hydrochloric Acid: Skin corrosion, Category 1A (H314), Serious eye damage, Category 1 (H318), Specific target organ toxicity - single exposure, Category 3, Respiratory system (H335).

TCA Solution: corrosion, Category 1A (H314), Acute aquatic toxicity, Category 1 (H400), Chronic aquatic toxicity, Category 1 (H410), Carc. Category 2 (H351), Acute toxicity, Oral, Category 4 (H302)

Guanidine Hydrochloride: Acute toxicity, Oral, Category 4 (H302), Skin irritation, Category 2 (H315), Eye irritation, Category 2A (H319).

Ethanol: Flammable liquids, Category 2 (H225), Eye irritation, Category 2A (H319).

Ethyl Acetate: Flammable liquids, Category 2 (H225), Eye irritation, Category 2A (H319), STOT SE, Category 3 (H336)

GHS Label Elements



Hazard Pictograms

Signal Word/s

Danger

Danger

Danger

Danger

Warning

Hazard Statements	<p>DNPH Solution: H228 Flammable solid, H302 Harmful if swallowed</p> <p>Hydrochloric Acid: H314 Causes severe skin burns and eye damage, H335 May cause respiratory irritation.</p> <p>TCA Solution: H302 Harmful if swallowed, H314 Causes severe skin burns and eye damage, H351 Suspected of causing cancer, H400 Very toxic to aquatic life, H410 Very toxic to aquatic life with long lasting effects.</p> <p>Guanidine Hydrochloride: H302 Harmful if swallowed, H315 Causes skin irritation, H319 Causes serious eye irritation.</p> <p>Ethanol: H225 Highly flammable liquid and vapor, H319 Causes serious eye irritation.</p> <p>Ethyl Acetate: H225 Highly flammable liquid and vapor, H319 Causes serious eye irritation, H336 May cause drowsiness or dizziness</p>
Response	<p>IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.</p> <p>EYE CONTACT: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>SKIN CONTACT: Take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>INHALATION: Move to an outside area and breath fresh air. Clear the nose by blowing.</p>
Storage	Not applicable.
Disposal	Not applicable.
Hazards not otherwise classified	
None known.	

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS Numbers/other identifiers

<u>Ingredient Name</u>	<u>%</u>	<u>CAS Number</u>
2,4-Dinitrophenylhydrazine	-	119-26-6
Hydrochloric acid	38	7647-01-0
Trichloroacetic acid	-	76-03-9
Guanidinium chloride	57	50-01-1
ethanol	-	64-17-5
Acetic acid, ethyl ester	-	141-78-6

4. FIRST-AID MEASURES

Description of Necessary First Aid Measures

Eye Contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
Skin Contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing and clean shoes before reuse.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Ingestion	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Over-Exposure Signs/Symptoms

No specific data.

Notes to Physician

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific Treatments

No specific treatment

Protection of First-Aiders

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

5. FIRE FIGHTING MEASURES

Extinguishing Media	Use an extinguishing agent suitable for the surrounding fire, such as water spray, carbon dioxide, dry chemical powder or appropriate foam. Prevent contact with skin and eyes.
Chemical Hazards from Fire	In a fire or if heated, a pressure increase will occur and the component containers may burst.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

For Non-Emergency Personnel	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear an appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For Emergency Responders	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For Non-Emergency Personnel" above.
Environmental Precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Protective Equipment	Wear respirator, chemical safety goggles, rubber boots and rubber gloves.

Methods and Materials for Containment and Cleaning Up

Small Spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large Spill	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. STORAGE AND HANDLING

Storage

Store the entire kit at 2-8°C upon arrival.

Handling

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Permissible Exposure Limits (PELs)

This product does not contain any hazardous materials with occupational exposure limits established by theregion specific regulatory bodies.

Appropriate Engineering Controls

Showers
Eyewash stations
Ventilation systems

Protective Equipment

Wear suitable protective clothing, including gloves, safety glasses, dust mask, and a laboratory coat.

Special Precautions

Not for human or drug use. Not for household use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, colorless
Odor	Odorless
Physical State	Liquid
pH	N/A
Boiling Point	N/A
Melting Point	N/A
Freezing Point	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Specific Gravity	N/A
Evaporation Rate	N/A
Solubility in Water	N/A
Odor Threshold	N/A
Coefficient of Water/Oil Distribution	N/A

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal handling procedures.
Hazardous Reactions	Under normal conditions of storage and use, hazardous reactions will not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Ingredient Name	Result	Species	Dose
2,4-Dinitrophenylhydrazine	LD50	Oral rat	645 mg/kg
Hydrochloric acid	LD50	Oral rabbit	2368 mg/kg
Trichloroacetic acid	LD50	Oral rat	400 mg/kg
Guanidinium chloride	LD50	Oral rat	829 mg/kg
ethanol	TDLO	Oral man	1.14 ml/kg
	LD50	Oral rat	7060 mg/kg
	TDLO	Oral man	650
	LD50	Dermal rat	40000 mg/kg
	TDLO	Inhalative hmn	1800
	LD50	Inhalative rat	10 h-20000 mg/m3
	LD50 Inhalation TCLO	Inhalative hmn	1800 mg/m3/30m
TDLO	Irritation of skin	1800 mg/kg (wmn)	

	Intraperitoneal LD50	Irritation of skin	280 mg/kg (rat)
Acetic acid, ethyl ester	LD50	Oral mouse	4100 mg/kg
	LD50	Oral rabbit	5620 mg/kg
	LD50	Dermal rabbit	>20 mg/kg
	TCLO	Inhalative hm	400 mg/m ³
	LC50/4 h	Inhalative rat	1600 mg/l
	Subcutaneous LDLO	Inhalative rat	5 g/kg

Carcinogenicity	Not available
Sensitization	Not available
Mutagenicity	Not available
Reproductive Toxicity	Not available
Specific target organ toxicity (single exposure)	Not available

Potential acute health effects

Eye contact	Sodium dodecyl sulfate, Sodium hydroxide: Risk of serious damage (rabbit) Hydrochloric acid, Trichloroacetic acid: Strong caustic effect, Strong irritant with the danger of severe eye injury. Guanidinium chloride, ethanol, Acetic acid, ethyl ester: Eye irritation.
Inhalation	Sodium dodecyl sulfate: May cause respiratory irritation
Ingestion	Not available
Skin Contact	Hydrochloric acid, Trichloroacetic acid, Guanidinium chloride: Caustic effect on skin and mucous membranes

12. ECOLOGICAL INFORMATION

Ecotoxicity	No data available
Persistence and degradability	No data available
Bioaccumulation/accumulation	No data available
Mobility in environmental media	No data available
Other hazardous effects	May be harmful to the environment, particularly aquatic organisms.

13. DISPOSAL CONSIDERATIONS

Disposal methods	Disposal should be in accordance with applicable national, state, and local laws and regulations. Local regulations may be more stringent than national or state requirements. Verify local and state regulations before discharging into public sewers or landfills. Do not dump into any body of water. Contact a licensed professional waste disposal service for appropriate methods of disposal.
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14. TRANSPORT INFORMATION

DOT	Not dangerous goods.
IATA	Hazard Class: 8.
ADR	Not dangerous goods.

15. REGULATORY INFORMATION

United States (TSCA) All ingredients are on the inventory or exempt from listing.

Canada (DSL / NDSL) All ingredients are on the inventory or exempt from listing.

Safety, health and environmental regulations/legislation specific for the substance or mixture: no data available.

Chemical safety assessment: no data available

16. OTHER INFORMATION

Disclaimer

The above information was obtained from sources available at the time of revision and believed to be accurate and reliable. The information included is not intended to be all inclusive and should only be used as a guide. RayBiotech shall not be held liable for any damage resulting from use, handling, or contact with the above product.

