

MSDS: Colorimetric Lipid Peroxidation Microplate Assay Kit Product No. FR 22

This product, FR 22 – Colorimetric Lipid Peroxidation Microplate Assay Kit, is provided and produced by Oxford Biomedical Research as an in vitro diagnostic test kit for the sole purpose of research use.

Manufacturer:

Oxford Biomedical Research
2165 Avon Industrial Dr.
Rochester Hills, MI 48309
(248) 852-8815

Section 1 - Hazardous Components:

Component: R1	Hazardous Content: Name: Acetonitrile CAS #: 75-05-8 MF: C ₂ H ₃ N
MDA Standard	Name: 1,1,3,3-Tetramethoxypropane CAS #: 102-52-3 MF: (CH ₃ O) ₂ CHCH ₂ CH(OCH ₃) ₂
Diluent	Name: Ferric Chloride Hexahydrate CAS #: 10025-77-1 MF: FeCl ₃ • 6H ₂ O
	Name: Methanol CAS #: 67-56-1 MF: CH ₄ O

Section 2 - Physical and Chemical Characteristics:

Acetonitrile:

Boiling Point: 81-82°C @ 10 mm Hg	Specific Gravity: 0.786 g/cm ³
Vapor Pressure: 72.8 mm Hg @ 20°C	Melting Point: -48°C
Vapor Density: 1.41 g/L	Evaporation Rate: 5.79
Solubility in Water: Soluble	Appearance: Clear Liquid

1,1,3,3-Tetramethoxypropane:

Boiling Point: 75°C @ 15 mm Hg
Vapor Pressure: No Data Available
Density: 0.997 g/mL at 25°C
Solubility in Water: No Data Available

Specific Gravity: No Data Available
Melting Point: No Data Available
Evaporation Rate: No Data Available
Appearance: Clear to Light Yellow Liquid

Ferric Chloride Hexahydrate:

Boiling Point: 280-285°C @ 760 mm Hg
Vapor Pressure: 1 mm Hg @ 194°C
Vapor Density: Not Determined
Solubility in Water: Soluble

Specific Gravity: Not Determined
Melting Point: 37°C
Evaporation Rate: Not Determined
Appearance: Yellow Powder

Methanol:

Boiling Point: 64-65°C @ 760 mm Hg
Vapor Pressure: 97.68 mm Hg @ 20°C
Vapor Density: 0.79 g/L
Solubility in Water: Soluble

Specific Gravity: 0.791 g/cm³
Melting Point: -98°C
Evaporation Rate: Not Determined
Appearance: Clear Liquid

Section 3 - Fire and Explosion Hazard Data:**Acetonitrile:**

Flash Point: 6°C (42°F)
Special Fire Fighting Measures: Dry Chemical, CO₂, "Alcohol" Foam
Unusual Fire and Explosion Hazards: Vapor may travel away from source and cause flashback upon ignition.
Auto-Ignition Temperature: 524°C (975.2°F)
Explosion Limits: Upper: 4.4% Lower: 16%

1,1,3,3-Tetramethoxypropane:

Flash Point: 54°C (129°F)
Special Fire Fighting Measures: Dry Chemical, CO₂, Water Spray, Alcohol Resistant Foam
Unusual Fire and Explosion Hazards: Carbon Oxides
Auto-Ignition Temperature: No Data Available
Explosion Limits: Upper: No Data Available Lower: No Data Available

Ferric Chloride Hexahydrate:

Flash Point: Not Determined
Special Fire Fighting Measures: Dry Chemical, CO₂, Water Spray
Unusual Fire and Explosion Hazards: Not Determined
Auto-Ignition Temperature: N/A
Explosion Limits: Upper: Not Determined Lower: Not Determined

Methanol:

Flash Point: 11°C (52°F)
Special Fire Fighting Measures: Dry Chemical, CO₂, Water Spray

Unusual Fire and Explosion Hazards: Vapor may travel away from source and cause flashback upon ignition.

Auto-Ignition Temperature: 455°C (851°F)

Explosion Limits: Upper: 6% Lower: 36%

Section 4 – Reactivity Hazard Data:

Acetonitrile:

Stability: Reactive, Corrosive, Flammable

Conditions to Avoid: Sources of Ignition, Excess Heat, Moisture

Hazardous Polymerization: Will Not Occur

Hazardous Decomposition/Byproducts: Hydrogen Cyanide, Nitrogen Oxides, Carbon Monoxide, Carbon Dioxide

Material Incompatibility: Acids, Bases, Oxidizing Agents, Reducing Agents, Alkali Metals

1,1,3,3-Tetramethoxypropane

Stability: Stable under recommended storage conditions.

Conditions to Avoid: Heat, flames, sparks

Hazardous Polymerization: No Data Available.

Hazardous Decomposition/Byproducts: No Data Available.

Material Incompatibility: Strong Oxidizing agents, Strong acids

Ferric Chloride Hexahydrate:

Stability: Stable

Conditions to Avoid: Moisture

Hazardous Polymerization: Will Not Occur

Hazardous Decomposition/Byproducts: Hydrogen Chlorine Gas, Iron Oxides

Material Incompatibility: Strong Oxidizing Agents

!Reacts EXPLOSIVELY with Sodium Metal and Potassium Metal!

Methanol:

Stability: Stable

Conditions to Avoid: Sources of Ignition, Excess Heat

Hazardous Polymerization: Will Not Occur

Hazardous Decomposition/Byproducts: Carbon Monoxide, Carbon Dioxide

Material Incompatibility: Acids, Acid Chloride, Acid Anhydrides, Oxidizing Agents, Reducing Agents, Alkali Metals

Section 5 - Health Hazard Data:

Acetonitrile:

Exposure Limits: OSHA PEL: 40 ppm / 70 mg/m³ ACGIH: 20 ppm skin

Toxicity Data: Toxic - Carcinogen

Health Hazards: Toxic by inhalation, ingestion, or skin absorption. Irritant. Destructive to eyes, respiratory system and skin.

Chronic Exposure: Reproductive Hazard, Carcinogen

Target Organs: Central Nervous System, Liver, Kidneys, Blood, Lungs

First Aid:

Ingestion: Wash mouth out with water if conscious and seek immediate medical attention.

Inhalation: Expose to fresh air and seek immediate medical attention. Give oxygen if breathing is difficult.

Skin: Flush area with water for 15 minutes and seek immediate medical attention. Remove contaminated clothing.

Eyes: Flush with water for 15 minutes while lifting eyelids and seek immediate medical attention.

1,1,3,3-Tetramethoxypropane:

Exposure Limits: No Data Available

Toxicity Data: Rat LD50, Oral – 2,440 mg/kg

Health Hazards: No Data Available

Chronic Exposure: No Data Available

Target Organs: No Data Available

First Aid:

Ingestion: Rinse mouth with water. Do not induce vomiting. Consult a physician.

Inhalation: Expose to fresh air. If not breathing, give artificial respiration. Consult a physician.

Skin: Wash off with soap and plenty of water. Consult a physician.

Eyes: Flush eyes with water as a precaution.

Ferric Chloride Hexahydrate:

Exposure Limits: TLV: 1 mg/m³

Toxicity Data: Toxic

Health Hazards: Toxic by inhalation, ingestion, or skin absorption. Irritant. Destructive to eyes, respiratory system and skin.

Chronic Exposure: Systemic Metal Poisoning, Liver and Kidney Damage

Target Organs: Liver, Kidneys, Eyes

First Aid:

Ingestion: Induce vomiting by drinking 2-4 glasses of water and touching the back of the throat with fingers if conscious and seek immediate medical attention.

Inhalation: Expose to fresh air and seek immediate medical attention. Give oxygen if breathing is difficult.

Skin: Flush area with water for 15 minutes and seek medical attention if irritation persists.

Eyes: Flush area with water for 15 minutes while lifting eyelids and seek immediate medical attention.

Methanol:

Exposure Limits: OSHA PEL: 200 ppm / 260 mg/m³

Toxicity Data: Toxic – Cannot be made non-toxic.

Health Hazards: Toxic by ingestion, inhalation, or skin absorption. Destructive to eyes, respiratory system and skin. Ingestion may cause

blindness or death. Direct contact with eyes can cause inflammation and transient corneal opacity.

Chronic Exposure: Teratogen, Mutagen, Reproductive Hazard

Target Organs: Eyes, Kidneys, Liver, Heart, Central Nervous System

First Aid: Ingestion: Induce vomiting by drinking 2-4 glasses of water and touching the back of the throat with fingers if conscious and seek immediate medical attention.

Inhalation: Expose to fresh air and seek immediate medical attention. Give oxygen if breathing is difficult.

Skin: Flush area with water for 15 minutes and seek immediate medical attention. Remove contaminated clothing.

Eyes: Flush with water for 15 minutes while lifting eyelids and seek immediate medical attention.

Section 6 - Control Measures:

Respiratory Protection: Do not breath vapors.

Ventilation: Requires local exhaust.

Protective Gloves: Proper disposable gloves.

Eye Protection: Safety glasses or goggles.

Other Protective Equipment: Uniform, lab coat, or disposable lab wear.

Work/Hygienic Practices: Follow usual precautionary measures for handling chemicals.
Keep away from food and beverages.

Section 7 - Handling and Use Precautions:

Accidental Release Measures: Wear suitable protective equipment to prevent inhalation, ingestion, or skin and eye contact. Cover spills with sand, soda ash, or dry-lime.

Waste Disposal: Disposal shall be in accordance with local, state, or federal guidelines.

Handling and Storage: 4-8°C

Section 8 – Transportation Information

Domestic (Land, D.O.T.) and International (Water, I.M.O., Air, I.C.A.O.)

Proper Shipping Name: Chemical Kit

UN/NA: UN3316

Packing Group: II

Section 9 – Regulatory Information

Acetonitrile:

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: F-Xn

Indication of Danger: Highly Flammable. Harmful.

R: 11-20/21/22-36

Risk Statements: Highly flammable. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes.

S: 16-36/37

Safety Statements: Keep away from sources of ignition – no smoking. Wear suitable protective clothing and gloves.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Flammable (USA) Highly Flammable (EU). Harmful.

Risk Statements: Harmful by inhalation, in contact with skin and if swallowed. Irritating to respiratory system and skin. Risk of serious damage to eyes.

Safety Statements: Keep away from sources of ignition – no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Statements: This material can produce a cyanide-like effect.

Target organ(s): Central nervous system. Liver.

1,1,3,3-Tetramethoxypropane

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

Ferric Iron Chloride:

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xn

Indication of Danger: Harmful.

R: 22-38-41

Risk Statements: Harmful if swallowed. Irritating to skin. Risk of serious damage to eyes.
S: 26-39

Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye/face protection.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Harmful.

Risk Statements: Harmful if swallowed. Irritating to skin. Risk of serious damage to eyes.

Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye/face protection.

Methanol:

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: F-T

Indication of Danger: Highly Flammable. Toxic.

R: 11-23/24/25-39/23/24/25

Risk Statements: Highly flammable. Toxic by inhalation, in contact with skin or if swallowed.

Toxic: Danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

S: 7-16-36/37-45

Safety Statements: Keep container tightly closed. Keep away from sources of ignition – no smoking. Wear suitable protective clothing and gloves. In case of

accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Flammable (USA) Highly Flammable (EU). Toxic.

Risk Statements: Toxic by inhalation, in contact with skin and if swallowed.

Toxic: Danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. Irritating to eyes and skin.

Safety Statements: Keep container tightly closed. Keep away from sources of ignition – no smoking. Take precautionary measures against static discharges. Avoid contact with skin. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Statements: Target organ(s): Eyes. Kidneys.

The information provided in this document is believed to be correct, but does not purport to be all-inclusive. This document is to serve only as a guide. Oxford Biomedical Research shall not be held liable for damages resulting from handling or contact with the above product(s). The contents of this document are not reflective of or a substitute for state, municipal or insurance requirements and constitute no warranty of any kind.