

MATERIAL SAFETY DATA SHEET



Conforms to 93/112/EC and ISO 11014-1

1. Chemical Product and Company Identification

Product Name: Hydrogen Peroxide Assay Kit -
Reagent B

Product Number: CL-204B

**Chemical Names/
Description:** 14% solution of sulfuric acid with 1% ammonium ferrous sulfate

Manufacturer
National Diagnostics
305 Patton Drive
Atlanta, GA 30336

Telephone Numbers

(800) 526-3867
(404) 699-2121

Emergency Numbers

Chemtrec
(800) 424-9300 (U.S. & Canada)
01-703-527-3887 (outside U.S. & Canada)

2. Composition/Information on Ingredients

Component	% Comp.	CAS #	EINECS #	TLV (Units)
SULFURIC ACID	14%	7664-93-9	231-639-5	1 mg/m ³ TWA 15 mg/m ³ IDLH
AMMONIUM IRON II SULFATE HEXAHYDRATE	1%	7783-85-9		1 mg/m ³ (TWA)

3. Hazards Identification

Appearance and Odor

clear colorless to yellow liquid

EMERGENCY OVERVIEW - IMMEDIATE HAZARD

SULFURIC ACID

Danger! Corrosive. Causes eye and skin burns. Causes digestive and respiratory tract burns. Harmful if swallowed. Harmful if inhaled.

AMMONIUM IRON II SULFATE HEXAHYDRATE

WARNING! CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.

HARMFUL IF SWALLOWED OR INHALED.

EMERGENCY OVERVIEW - CHRONIC HAZARD WARNING:

SULFURIC ACID

Prolonged or repeated inhalation may cause nosebleeds, nasal congestion, erosion of the teeth, perforation of the nasal septum, chest pain and bronchitis. Prolonged or repeated eye contact may cause conjunctivitis.

AMMONIUM IRON II SULFATE HEXAHYDRATE

No information found.

Potential Health Effects

Inhalation

SULFURIC ACID:

Harmful if inhaled. May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. Causes chemical burns to the respiratory tract.

AMMONIUM IRON II SULFATE HEXAHYDRATE:

Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.

Ingestion

SULFURIC ACID:

May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns.

AMMONIUM IRON II SULFATE HEXAHYDRATE:

Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.

Low toxicity in small quantities but larger dosages may cause nausea, vomiting, diarrhea, and black stool. Pink urine discoloration is a strong indicator of iron poisoning. Liver damage, coma, and death from iron poisoning has been recorded.

Skin

SULFURIC ACID:

Causes skin burns.

AMMONIUM IRON II SULFATE HEXAHYDRATE:

Causes irritation to skin. Symptoms include redness, itching, and pain.

Eyes

SULFURIC ACID:

Causes severe eye burns. May cause irreversible eye injury.

AMMONIUM IRON II SULFATE HEXAHYDRATE:

Causes irritation, redness, and pain.

Signs and Symptoms of Overexposure

Inhalation

SULFURIC ACID:

Inhalation produces damaging effects on the mucous membranes and upper respiratory tract.

Symptoms may include irritation of the nose and throat, and labored breathing. May cause lung edema, a medical emergency.

AMMONIUM IRON II SULFATE HEXAHYDRATE:

Coughing, shortness of breath.

Ingestion

SULFURIC ACID:

Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach, leading to death.

Can cause sore throat, vomiting, diarrhea. Circulatory collapse with clammy skin, weak and rapid pulse, shallow respirations, and scanty urine may follow ingestion or skin contact. Circulatory shock is often the immediate cause of death.

AMMONIUM IRON II SULFATE HEXAHYDRATE:

Symptoms may include nausea, vomiting and diarrhea.

Skin

SULFURIC ACID:

Corrosive. Symptoms of redness, pain, and severe burn can occur. Circulatory collapse with clammy skin, weak and rapid pulse, shallow respirations, and scanty urine may follow skin contact or ingestion.

Circulatory shock is often the immediate cause of death.

AMMONIUM IRON II SULFATE HEXAHYDRATE:

Redness, itching, and pain.

Eyes

SULFURIC ACID:

Corrosive. Contact can cause blurred vision, redness, pain and severe tissue burns. Can cause blindness.

AMMONIUM IRON II SULFATE HEXAHYDRATE:

Irritation, redness, and pain.

Carcinogenicity

SULFURIC ACID:

Chronic exposure to mists containing sulfuric acid is a cancer hazard. Cancer Status: The International Agency for Research on Cancer (IARC) has classified strong inorganic acid mists containing sulfuric acid as a known human carcinogen, (IARC category 1). This classification applies only to mists containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions.

AMMONIUM IRON II SULFATE HEXAHYDRATE:

Not listed as a known or anticipated carcinogen by NTP or IARC.

Mutagenicity

SULFURIC ACID:

No information found.

AMMONIUM IRON II SULFATE HEXAHYDRATE:

No information found.

Reproductive Toxicity

SULFURIC ACID:

No information found.

AMMONIUM IRON II SULFATE HEXAHYDRATE:

No information found.

Teratogenic Effects

SULFURIC ACID:

No information found.

AMMONIUM IRON II SULFATE HEXAHYDRATE:

No information found.

Routes of Entry

SULFURIC ACID:

Ingestion, Inhalation, or through the skin.

AMMONIUM IRON II SULFATE HEXAHYDRATE:

Ingestion, Inhalation, or through the skin.

Target Organ Statement

SULFURIC ACID:

No information found.

AMMONIUM IRON II SULFATE HEXAHYDRATE:

No information found.

4. First Aid Measures

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call

a physician immediately.

Ingestion

DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Call a physician immediately.

Skin

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Excess acid on skin can be neutralized with a 2% solution of bicarbonate of soda.

Eyes

Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a physician immediately.

5. Fire Fighting Measures

Flash Point	NA	Flammable Limits	NA
Flash Point Method	NA	Autoignition temperature	NA

Extinguishing media

Dry chemical, foam or carbon dioxide. Do not use water on material. However, water spray may be used to keep fire exposed containers cool.

Protective Equipment

Full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in positive pressure mode. Structural firefighter's protective clothing is ineffective for fires

Hazardous Combustion Products

Contact with most metals causes formation of flammable and explosive hydrogen gas.

Unusual Fire and Explosion Hazards

Concentrated sulfuric acid is a strong dehydrating agent. Reacts with organic materials and may cause ignition of finely divided materials on contact.

NFPA Codes: Health 3 Flammability 0 Reactivity 2

6. Accidental Release Measures

Steps to be taken in case material is released or spilled

Ventilate area. Wear personal protective equipment as specified in Section 8. Isolate hazard area. Neutralize material with dry lime or soda ash, absorb with inert material (vermiculite, sand), keep in a closed container and hold for waste disposal.

Waste Disposal Method

Disposal must be made in accordance with applicable federal, state, and local regulations. DO NOT FLUSH TO SEWER.

Personal Precautions

Wear appropriate protective equipment as specified in section 8.

7. Handling and Storage

Handling

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling. Wear special protective equipment (Sec. 8) where exposures may exceed established levels.

Storage

Store in a cool, dry, ventilated storage area with acid resistant floors and good drainage. Protect from physical damage. Keep out of direct sunlight and away from heat, water, and incompatible materials.

Storage Temperature

Room temperature

Disposal

Observe all national, state, and local regulations regarding product disposal. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquids).

8. Exposure Controls/Personal Protection

Airborne Exposure Limits

Component: SULFURIC ACID

ACGIH Threshold Limit Value (TLV): 1 mg/m³ TWA 15 mg/m³ IDLH

OSHA Permissible Exposure Limit (PEL): 1 mg/m³ TWA

Component: AMMONIUM IRON II SULFATE HEXAHYDRATE

ACGIH Threshold Limit Value (TLV): 1 mg/m³ (TWA)

OSHA Permissible Exposure Limit (PEL):

Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborn Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

Respiratory Protection

If the exposure limit is exceeded and engineering controls are not feasible, a full facepiece respirator with an acid gas cartridge and particulate filter (NIOSH type N100 filter) may be worn up to 50 times the exposure limit.

Eye Protection

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Skin Protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Other Control Measures

9. Physical Properties

Boiling point No Data

Melting point 3C

Evaporation Rate

Solubility in water

Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
SULFURIC ACID	Yes	Yes	1

AMMONIUM IRON II SULFATE
HEXAHYDRATE

No

No

None

12. Ecological Information

SULFURIC ACID

LC50 Flounder 100 to 330 mg/l/48 hr aerated water/Conditions of bioassay not specified; LC50 Shrimp 80 to 90 mg/l/48 hr aerated water /Conditions of bioassay not specified; LC50 Prawn 42.5 ppm/48 hr salt water /Conditions of bioassay not specified. LC50 Flounder 100 to 330 mg/l/48 hr aerated water/Conditions of bioassay not specified; LC50 Shrimp 80 to 90 mg/l/48 hr aerated water /Conditions of bioassay not specified; LC50 Prawn 42.5 ppm/48 hr salt water /Conditions of bioassay not specified.

This material may be toxic to aquatic life.

AMMONIUM IRON II SULFATE HEXAHYDRATE

No information found.

13. Disposal Considerations

Observe all national, state, and local regulations regarding product disposal. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquids).

14. Transport Information

D.O.T.

Proper Shipping Name:

Hazard Class:

UN Number:

Packing Group:

I.A.T.A.

Proper Shipping Name:

Hazard Class:

UN Number:

Packing Group:

I.M.O.

Proper Shipping Name:

Hazard Class:

UN Number:

Packing Group:

15. Regulatory Information

United States

TSCA Regulatory Statement

All intentional ingredients are listed on the TSCA Inventory.

SARA 311/312 Hazard Categories

Component	Fire	Pressure	Reactivity	Acute	Chronic
SULFURIC ACID	No	No	Yes	Yes	Yes
AMMONIUM IRON II SULFATE HEXAHYDRATE	No	No	No	Yes	No

Europe

EEC Regulatory

All intentional ingredients are listed on the European EINECS Inventory.

16. Other Information

NFPA Codes: Health 3 Flammability 0 Reactivity 2

MANUFACTURER DISCLAIMER: The information given herein is offered in good faith as accurate, but without guarantee. Conditions of the use and suitability of the product for particular uses are beyond our control. All risks of use of the product are therefore assumed by the user. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.