

Safety Data Sheet

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Catalog Number: MET-5027
 Product Name: Homocitrulline/Citrulline Assay Kit
 Recommended Use: Laboratory Research Reagents

MANUFACTURER:

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SECTION 2. HAZARDS IDENTIFICATION

SDS Solution (Part No. 50273A): One 500 µL vial.

Classification:

Flammable solids, Category 2 (H228)
 Acute toxicity, Oral, Category 4 (H302)
 Acute toxicity, Inhalation, Category 4 (H332)
 Skin irritation, Category 2 (H315)
 Serious eye damage, Category 1 (H318)
 Specific target organ toxicity - single exposure, Category 3, Respiratory system (H335)
 Acute aquatic toxicity, Category 2 (H401)
 Chronic aquatic toxicity, Category 3 (H412)


Pictogram	
Signal Word	Danger
<p>Hazard Statements: Flammable (H228), Harmful if swallowed or inhaled (H302 + H332), Causes skin irritation (H315), Causes serious eye damage (H318), May cause respiratory irritation (H335), Toxic to aquatic life (H401), Harmful to aquatic life with long lasting effects (H412).</p>	
<p>Precautionary Statements: Keep away from heat/sparks/open flames/hot surfaces. No smoking (P210), Ground/bond container and receiving equipment (P240), Use explosion-proof electrical/ventilating/lighting/equipment (P241), Avoid breathing dust/fume/gas/mist/vapors/spray (P261), Wash skin thoroughly after handling (P264), Do not eat, drink, or smoke when using this</p>	

product (P270), Use only outdoors or in a well-ventilated area (P271), Avoid release to the environment (P273), Wear protective gloves/protective clothing/eye protection/face protection (P280), IF SWALLOWED: call a POISON CENTER / doctor if you feel unwell. Rinse mouth (P301 + P312 + P330), IF ON SKIN: wash with plenty of soap and water (P302 + P352), IF INHALED: remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER / doctor if you feel unwell (P304 + P340 + P312), IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER / doctor (P305 + P351 + P338 + P310), If skin irritation occurs: get medical advice/attention (P332 + P313), Take off contaminated clothing and wash before reuse (P362), In case of fire: use dry sand, dry chemical or alcohol-resistant foam to extinguish (P370 + P378), Store in a well-ventilated place. Keep container tightly closed (P403 + P233), Store locked up (P405), Dispose of contents/container to an approved waste disposal plant (P501).

Assay Reagent A (Part No. 50275A): One 25 mL bottle.

Classification:

- Corrosive to metals, Category 1 (H290)
- Acute toxicity, Oral, Category 2 (H300)
- Acute toxicity, Oral, Category 3 (H301)
- Skin corrosion, Category 1A (H314)
- Serious eye damage, Category 1 (H318)
- Acute toxicity, Inhalation, Category 2 (H330)
- Germ cell mutagenicity, Category 1B (H340)
- Carcinogenicity, Category 1B (H350)
- Reproductive toxicity, Category 1B (H360)
- Specific target organ toxicity-repeated exposure, Category 1 (H372)
- Acute aquatic toxicity, Category 1 (H400)
- Acute aquatic toxicity, Category 3, (H402)
- Chronic aquatic toxicity, Category 1 (H410)
- Chronic aquatic toxicity, Category 3 (H412)

Pictogram	
Signal Word	Danger
<p>Hazard Statements: May be corrosive to metals (H290), Fatal if swallowed (H300), Toxic if swallowed (H301), Causes severe skin burns and eye damage (H314), Harmful to aquatic life (H412), Fatal if inhaled (H330), May cause genetic defects (H340), May cause cancer (H350), May damage fertility or the unborn child (H360), Causes damage to organs through prolonged or repeated exposure (H372), Very toxic to aquatic life with long lasting effects (H410).</p>	

Precautionary Statements: Obtain special instructions before use (P201), Do not handle until all safety precautions have been read and understood (P202), Keep only in original container (P234), Do not breathe dust or mist (P260), Wash skin thoroughly after handling (P264), Do not eat, drink, or smoke when using this product (P270), Use only outdoors or in a well-ventilated area (P271), Avoid release to the environment (P273), Wear protective gloves/protective clothing/eye protection/face protection (P280), Wear respiratory protection (P284), IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. (P301 + P310 + P330), IF SWALLOWED: rinse mouth. Do NOT induce vomiting (P301 + P330 + P331), IF ON SKIN (or hair): take off immediately all contaminated clothing Rinse skin with water/shower (P303 + P361 + P353), IF INHALED: remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER / doctor (P304 + P340 + P310), IF IN EYES: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER / doctor (P305 + P351 + P338 + P310), IF exposed or concerned: Get medical advice/attention (P308 + P313), Wash contaminated clothing before reuse (P363), Absorb spillage to prevent material damage (P390), Collect spillage (P391), Store in a well-ventilated place. Keep container tightly closed (P403 + P233), Store locked up (P405), Store in corrosive resistant stainless steel container with a resistant inner liner (P406), Dispose of contents/container to an approved waste disposal plant (P501).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

SDS Solution (Part No. 50273A): One 500 µL vial.

CHEMICAL NAME	CONCENTRATION	CAS #
Sodium dodecyl sulfate	<20 %	151-21-3

Assay Reagent A (Part No. 50275A): One 25 mL bottle.

CHEMICAL NAME	CONCENTRATION	CAS #
Sulfuric Acid	< 2 N	7664-93-9
Phosphoric Acid	< 2 N	7664-38-2
Thiosemicarbazide	< 5 mM	79-19-6
Cadmium Sulfate	< 5 mM	10124-36-4

SECTION 4. FIRST-AID MEASURES

- IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
- IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. CALL A PHYSICIAN.

- IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media: Water spray, alcohol-resistant foam, dry chemical or CO2
- Special protective equipment: Self-contained breathing apparatus

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Evacuate area
- Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves.
- Absorb with sand or vermiculite, sweep up, place in a bag and hold for waste disposal.
- Avoid raising dust.
- Ventilate area and wash spill site after material pickup is complete.

SECTION 7. SAFETY HANDLING AND STORAGE

- Should be handled by trained personnel observing good laboratory practices.
- Avoid breathing vapor.
- Avoid skin contact or swallowing.
- May cause allergic reaction in sensitized individuals.
- Store in properly labeled containers at temperature on label

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Engineering measures: Handle in accordance with good industrial hygiene and safety practices. Wash hands immediately after handling the product.
- Personal protective equipment: Face shield or safety glasses, gloves, protective clothing, suitable respiratory equipment in cases of inadequate ventilation.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Form: liquid
- Odor: no data available
- pH: no data available
- Boiling point / range: no data available
- Melting point / range: no data available
- Flash point: no data available
- Evaporation rate: no data available
- Vapor pressure: no data available
- Vapor density: no data available
- Relative density: no data available
- Water solubility: no data available
- Autoignition temperature: no data available
- Decomposition temperature: no data available
- Viscosity: no data available

- Explosive properties: no data available
- Oxidizing properties: no data available

SECTION 10. STABILITY AND REACTIVITY

- Stability: no data available
- Reactivity: no data available
- Conditions to avoid: no data available
- Incompatible materials: no data available
- Decomposition products: no data available

SECTION 11. TOXICOLOGICAL INFORMATION

- Acute toxicity
 - SDS: LD50 Oral 1.288 mg/kg (rat); LC50 Inhalation >3.9 mg/m³ (rat); LD 50 Dermal 580 mg/kg (rabbit)
 - Sulfuric Acid: LD50 Oral 2.140 mg/kg (rat); LC50 Inhalation 2 hr, 510 mg/m³ (rat)
 - Phosphoric Acid: LD50 2,740 mg/kg (rabbit)
 - Thiosemicarbazide: LD50 Dermal 2,200 mg/kg (rabbit)
 - Cadmium Sulfate: LD50 Oral 280 mg/kg (rat); LD50 Intraperitoneal 6.9 mg/kg (mouse)
- Skin corrosion/irritation
 - SDS: Irritation (rabbit)
 - Sulfuric Acid: Extremely corrosive and destructive to tissue (rabbit)
 - Phosphoric Acid: Causes burns (rabbit)
 - All other hazardous components: no data available
- Serious eye damage/irritation
 - SDS: Risk of serious damage (rabbit)
 - Sulfuric Acid: Severe eye irritation (rabbit)
 - Phosphoric Acid: Causes burns (rabbit)
 - All other hazardous components: no data available
- Respiratory or skin sensitization
 - SDS: May cause respiratory irritation
 - Phosphoric Acid: Patch test negative (human)
 - All other hazardous components: no data available
- Germ cell mutagenicity: no data available
- Carcinogenicity: no data available
- Reproductive toxicity: no data available

SECTION 12. ECOLOGICAL INFORMATION

- Ecotoxicity
 - SDS: LC50 3.6 mg/L in 96 hrs (rainbow trout); mortality NOEC 19.5 mg/L in 96 hrs (rainbow trout); mortality LOEC 4.6 mg/L in 8 days (fathead minnow); growth inhibition LOEC 2.68 mg/L in 6 days (algae)
 - Sulfuric Acid: LC50 42 mg/L in 96 hrs (mosquito fish); mortality NOEC 19.5 mg/L in 96 hrs (rainbow trout); mortality LOEC 4.6 mg/L in 8 days (fathead minnow); growth inhibition LOEC 2.68 mg/L in 6 days (algae)

- Phosphoric Acid: LC50 138 mg/l 96 hrs (*Gambusia affinis*); EC50 270 mg/l (activated sludge).
- Thiosemicarbazide: LC50 20.8 mg/l in 96 h (*Pimepales promelas*)
- Cadmium Sulfate: mortality LC50 0.2 mg/l in 90 h (*Pimepales promelas*); Immobilization EC50 0.15 mg/l in 48 h (*Daphnia magna*)
- Mobility: no data available
- Biodegradation: no data available
- Bioaccumulation: no data available

SECTION 13. DISPOSAL CONSIDERATIONS

For small quantities: Cautiously add to a large stirred excess of water. Adjust the pH to neutral. Flush the aqueous solutions down the drain with plenty of water.

SECTION 14. TRANSPORT INFORMATION - IATA

- Hazard Class: 8
- Subsidiary Class: none
- Packing Group: II
- UN-No: UN2796

- Hazard Class: 8
- Subsidiary Class: none
- Packing Group: III
- UN-No: UN1805

NOTE: THIS PRODUCT IS SHIPPED AS "DANGEROUS GOODS IN EXCEPTED QUANTITIES" UNDER IATA REGULATION 2.6.2.2.

SECTION 15. REGULATORY INFORMATION

- Safety, health and environmental regulations/legislation specific for the substance or mixture: no data available
- Chemical safety assessment: no data available

SECTION 16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and should be used only as a guide for experienced personnel. Cell Biolabs, Inc. shall not be held liable for any damage resulting from the handling or from contact with the above product(s).

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