



1. PRODUCT AND COMPANY IDENTIFICATION

Product name: VALIDATE[®] GC2vt Calibration Verification Test Kit

Product number: 1200vt

VALIDATE[®] products are not known to be hazardous. However, the above listed VALIDATE[®] product contains ≥1.0% Citric Acid. Therefore, this MSDS sheet was specifically created to provide information pertaining solely to Citric Acid.

Intended Use: VALIDATE[®] Calibration Verification / Linearity Test Kit solutions are intended for *in vitro* diagnostic use in the quantitative determination of linearity, calibration verification and verification of reportable range in automated, semi-automated and manual instrument systems.

Manufacturer: Maine Standards Company, LLC
Address: 765 Roosevelt Trail
Windham, ME 04062

Emergency Phone: 800-377-9684
207-892-1300

Fax: 207-892-2266

2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: citric acid hydrate, 3-carboxy-3-hydroxypentanedioic acid
Formula: C₆H₈O₇
Molecular Weight: 192.12 g/mol
IUPAC Name: 2-hydroxypropane-1, 2, 3-tricarboxylic acid
Risk Phrases: R 37 Irritating to respiratory system
R 38 Irritating to skin
R 41 Risk of serious damage to eyes

Safety Phrases: S 26 In case of contact with eyes rinse immediately with plenty of water and seek medical advice
S 36 Wear suitable protective clothing

Notes: Citric Acid is not a known carcinogen.

Name	CAS-No.	EC-No.	Index-No.	% by Weight
Citric Acid	77-92-9	201-069-1	-	-

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Irritant

HMS Classification
Health Hazard: 2
Flammability: 0
Physical hazards: 0

NFPA Rating

Health Hazard: 2

Fire: 0

Reactivity Hazard: 0

Potential Health Effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.
Ingestion	May be harmful if swallowed.

4. FIRST AID MEASURES**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration and consult a physician.

In case of skin contact

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

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES**Flammable properties**

Flash point	No data available
Ignition temperature	No data available

Suitable extinguishing media

Use water spray, alcohol resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves.

Eye protection

Safety glasses with side-shields conforming to EN166

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	Solid
Color	White

Safety data

pH	No data available
Melting point	153-159 °C (307-318 °F)
Boiling point	No data available
Flash point	No data available
Ignition temperature	No data available
Lower explosion limit	8% (V)
Water solubility	No data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions

Conditions to avoid

No data available

Materials to avoid

Oxidizing agents, Bases, Reducing agents, Nitrates

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 3,000 mg/kg

Skin corrosion/irritation

Skin - rabbit - Mild skin irritation - 24 h

Serious eye damage/eye irritation

Eyes - rabbit - Severe eye irritation - 24 h

Respiratory or skin sensitization

Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product presents at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product presents at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product presents at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure (GHS)

No data available

Specific target organ toxicity - repeated exposure (GHS)

No data available

Aspiration hazard

No data available

Potential health effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure

Vomiting, Diarrhea, Damage to tooth enamel., Dermatitis, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information

RTECS: GE7350000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish LC50 - Leuciscus idus melanotus - 440 mg/l - 48 h

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Product

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards

Irritant

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302 Components

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

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard

Massachusetts Right To Know Components

No Components Listed

Pennsylvania Right To Know Components

Citric acid

CAS-No.

77-92-9

Revision Date

New Jersey Right To Know Components

Citric acid

CAS-No.

Revision Date

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION**Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Maine Standards Company shall not be held liable for any damage resulting from handling or from contact with the above product.