

Product Name: (R)-(-)-1,3-Butanediol Revision Date: 5/30/2021



# I. PRODUCT AND COMPANY IDENTIFICATION

Product Name:

Product Catalog Number:

CAS Number:

Company:

(R)-(-)-1,3-Butanediol

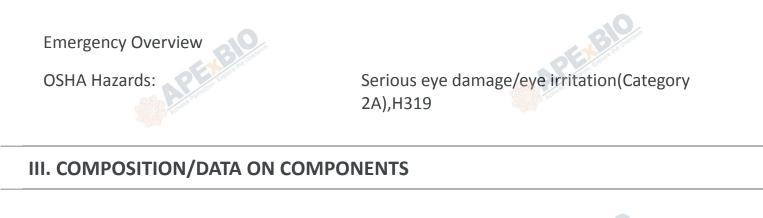
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difficult, give oxygen; if breathing stops, give

#### **II. HAZARDS IDENTIFICATION**



Formula:	C4H10O2	ng Unirout
Molecular Weight :	90.12	
IV. FIRST AID MEASURES		
After Inhalation:	If inhaled, remove to fresh air; if breathing is	

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After skin contact:



After swallowing:

artificial respiration.

Flush with copious amounts of water; remove contaminated clothing and shoes; call a physician; Take victim to hospital immediately; call a physician.

Check for and remove contact lenses and flush with copious amounts of water; assure adequate flushing by separating the eyelids with fingers; call a physician.

If swallowed, wash out mouth with copious amounts of water; call a physician

# V. FIRE FIGHTING MEASURES

Conditions of flammability:

Suitable extinguishing media:

Special protective equipment for firefighters:

Hazardous combustion products:

Not flammable or combustible.

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

Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), Sulphur oxides.

## **VI. ACCIDENTAL RELEASE MEASURES**

Personal precautions:

Environmental precautions:

Methods and materials for containment and cleaning up:

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas.

Do not let product enter drains. Prevent further leakage or spillage if safe to do so.

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

## **VII. HANDLING AND STORAGE**

Precautions for safe handling:

Conditions for safe storage:

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: Store at -20°C Keep in a dry place.

## **VIII. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

Personal protective equipment as follows:

Respiratory protection:



Hand protection:



Skin and body protection:

Contains no substances with occupational exposure limit values.

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Choose body protection in relation to its type, to the concentration and amount of dangerous

substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

General industrial hygiene practice.

#### Hygiene measures:

### **IX. PHYSICAL AND CHEMICAL PROPERTIES**

#### Information on basic physical and chemical properties

- a) Appearance
- b) Odour
- c) Odour Threshold
- d) pH
- e) Melting point/freezing point
- f) Initial boiling point and
- boiling range
- g) Flash point
- h) Evaporation rate
- i) Flammability (solid, gas)
- j) Upper/lower flammability or
- explosive limits
- k) Vapour pressure
- I) Vapour density
- m) Relative density
- n) Water solubility
- o) Partition coefficient

No data available No data available

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No data available No data available No data available No data available

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q) Decomposition temperature

- r) Viscosity
- s) Explosive properties
- t) Oxidizing properties

Other safety information

No data available

Chemical stability:

Conditions to avoid:

Materials to avoid:

## X. STABILITY AND REACTIVITY

Possibility of hazardous reactions:

No data available

Stable under recommended storage conditions.

No data available.

No data available.

Strong acids, Strong bases.

# **XI. TOXICOLOGICAL INFORMATION**

Carcinogenicity IARC: ACGIH: NTP:

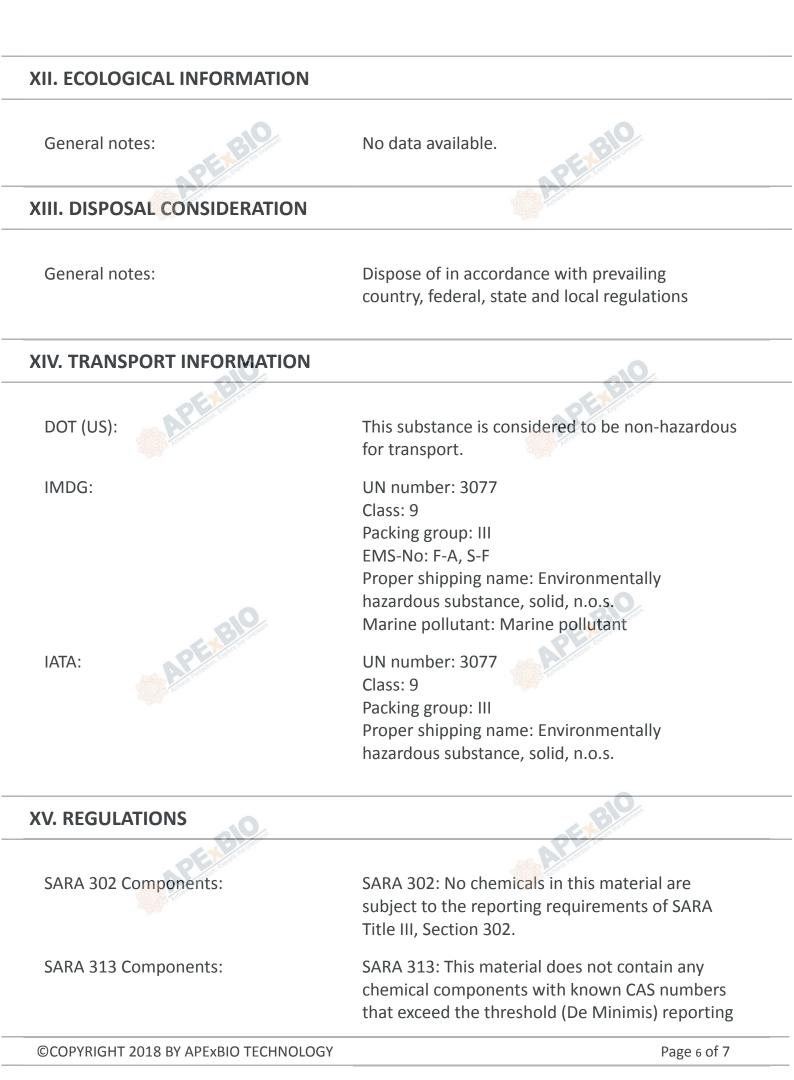
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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

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

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





levels established by SARA Title III, Section 313.

SARA 311/312 Hazards:

Massachusetts Right To Know Components:

Pennsylvania Right To Know Components:

New Jersey Right To Know Components:

California Prop. 65 Components:

Acute Health Hazard.

No components are subject to the Massachusetts Right to Know Act.

No components are subject to the New Jersey Right to Know Act.

No components are subject to the New Jersey Right to Know Act.

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

### **XVI. OTHER INFORMATION**

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