

# 1-Dodecylphosphonic acid: sc-273318



The Power to Question

## MATERIAL SAFETY DATA SHEET

### 1 Identification of substance:

**Product Name:** 1-Dodecylphosphonic acid  
**Catalog Number:** sc-273318  
**Supplier:** Santa Cruz Biotechnology, Inc.  
2145 Delaware Avenue  
Santa Cruz, California 95060  
800.457.3801 or 831.457.3800  
**Emergency:** ChemWatch  
Within the US & Canada: 877-715-9305  
Outside the US & Canada: +800 2436 2255  
(1-800-CHEMCALL) or call +613 9573 3112

### 2 Hazards identification

Classification of the substance or mixture



GHS05 Corrosion

H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



C; Corrosive

R34: Causes burns.

Label elements

Labelling according to EU guidelines:

Code letter and hazard designation of product:  
C Corrosive

Risk phrases:

34 Causes burns.

Safety phrases:

20 When using do not eat or drink.  
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
45 In case of accident or if you feel unwell, seek medical advice immediately.

Hazard description:

WHMIS classification



Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH	2	Health (acute effects) = 2
FIRE	1	Flammability = 1
REACTIVITY	1	Reactivity = 1

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

### 3 Composition/information on ingredients

Chemical characterization: Substances

(CAS#) Description:

1-Dodecylphosphonic acid (CAS# 5137-70-2)

Identification number(s):

EINECS Number: 225-897-8

## 4 First aid measures

### Description of first aid measures

**General information** Immediately remove any clothing soiled by the product.

### After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

### After skin contact

Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

### After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing** Seek immediate medical advice.

## 5 Firefighting measures

### Extinguishing media

### Suitable extinguishing agents

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

### Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide

Phosphorus oxides

### Advice for firefighters

#### Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

## 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

### Environmental precautions:

Do not allow material to be released to the environment without proper governmental permits.

### Methods and material for containment and cleaning up:

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

### Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## 7 Handling and storage

### Handling

#### Precautions for safe handling

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

**Information about protection against explosions and fires:** Keep ignition sources away.

#### Conditions for safe storage, including any incompatibilities

##### Storage

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:**

Store away from oxidizing agents.

Store away from strong bases.

#### Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers. Store at room temperature.

## 8 Exposure controls/personal protection

### Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

### Control parameters

**Components with limit values that require monitoring at the workplace:** Not required.

**Additional information:** No data

### Exposure controls

#### Personal protective equipment

##### General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

**Breathing equipment:** Use suitable respirator when high concentrations are present.

**Protection of hands:**

Check protective gloves prior to each use for their proper condition.

Impervious gloves

**Material of gloves**

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

**Eye protection:**

Safety glasses

Tightly sealed goggles

Full face protection

**Body protection:** Protective work clothing.

## 9 Physical and chemical properties

Information on basic physical and chemical properties	
<b>General Information</b>	
<b>Appearance:</b>	
<b>Form:</b>	Crystalline
<b>Formula:</b>	C12H27O3P
<b>Weight:</b>	250.31
<b>pH-value:</b>	Not applicable.
<b>Change in condition</b>	
<b>Melting point/Melting range:</b>	81-83°C (178-181 °F)
<b>Boiling point/Boiling range:</b>	Not determined
<b>Sublimation temperature / start:</b>	Not determined
<b>Flash point:</b>	Not applicable
<b>Flammability (solid, gaseous)</b>	Not determined.
<b>Ignition temperature:</b>	Not determined
<b>Decomposition temperature:</b>	Not determined
<b>Auto igniting:</b>	Not determined.
<b>Danger of explosion:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined
<b>Upper:</b>	Not determined
<b>Vapor pressure:</b>	Not applicable.
<b>Density:</b>	Not determined
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Segregation coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>dynamic:</b>	Not applicable.
<b>kinematic:</b>	Not applicable.
<b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

**Reactivity**

**Chemical stability**

**Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

**Possibility of hazardous reactions** No dangerous reactions known

**Incompatible materials:**

Oxidizing agents

Bases

**Hazardous decomposition products:**

Carbon monoxide and carbon dioxide

Phosphorus oxides (e.g. P2O5)

## 11 Toxicological information

**Information on toxicological effects**

**Acute toxicity:**

**Primary irritant effect:**

**on the skin:**

Corrosive effect on skin and mucous membranes.

Irritant to skin and mucous membranes.

**on the eye:**

Strong corrosive effect.

Irritating effect.

**Sensitization:** No sensitizing effects known.

**Subacute to chronic toxicity:**

Corrosive materials are acutely destructive to the respiratory tract, eyes, skin and digestive tract. Eye contact may result in permanent damage and complete vision loss. Inhalation may result in respiratory effects such as inflammation, edema, and chemical pneumonitis. May cause coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Ingestion may cause damage to the mouth, throat and esophagus. May cause skin burns or irritation depending on the severity of the exposure.

Organic phosphorus compounds exhibit a wide range of toxicity. Most are skin and eye irritants with the more volatile also being respiratory irritants. Those exhibiting substantial water reactivity will have stronger irritating properties and may be corrosive enough to cause severe burns. Some organic phosphorus compounds are cholinesterase inhibitors. Symptoms associated with these include muscle twitching, convulsions, flaccid paralysis, coma, respiratory failure. They can be highly paralytic.

**Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

## 12 Ecological information

**Toxicity**

**Acquatic toxicity:** No further relevant information available.

**Persistence and degradability** No further relevant information available.

**Behavior in environmental systems:**

**Bioaccumulative potential** No further relevant information available.

**Mobility in soil** No further relevant information available.

**Additional ecological information:**

**General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

**Other adverse effects** No further relevant information available.

## 13 Disposal considerations

**Waste treatment methods**

**Recommendation** Consult state, local or national regulations to ensure proper disposal.

**Uncleaned packagings:**

**Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

**DOT regulations:**



**Hazard class:** 8  
**Identification number:** UN3261  
**Packing group:** III  
**Proper shipping name (technical name):** CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (1-Dodecylphosphonic acid)  
**Label:** 8

**Land transport ADR/RID (cross-border)**



**ADR/RID class:** 8 (C4) Corrosive substances  
**Danger code (Kemler):** 80  
**UN-Number:** 3261  
**Packaging group:** III  
**UN proper shipping name:** 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (1-Dodecylphosphonic acid)

**Maritime transport IMDG:**



**IMDG Class:** 8  
**UN Number:** 3261  
**Label** 8  
**Packaging group:** III  
**Marine pollutant:** No  
**Segregation groups** Acids  
**Proper shipping name:** CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (1-Dodecylphosphonic acid)

**Air transport ICAO-TI and IATA-DGR:**



**ICAO/IATA Class:** 8  
**UN/ID Number:** 3261  
**Label** 8  
**Packaging group:** III  
**Proper shipping name:** CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (1-Dodecylphosphonic acid)

**UN "Model Regulation":** UN3261, CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S., 8, III  
**Special precautions for user** Warning: Corrosive substances  
**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

**15 Regulatory information**

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Product related hazard informations:**

**Hazard symbols:**

C Corrosive

**Risk phrases:**

34 Causes burns.

**Safety phrases:**

20 When using do not eat or drink.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

45 In case of accident or if you feel unwell, seek medical advice immediately.

**National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Non-Domestic Substances List (NDSL).

**Information about limitation of use:** For use only by technically qualified individuals.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**16 Other information:**

The above information is believed to be correct but does not purport to be complete and should be used only as a guide. The burden of safe use of this material rests entirely with the user.