

## SECTION 1: IDENTIFICATION

- 1.1 GHS Product identifier:** Penecal
- Other means of identification:**  
Non-applicable
- 1.2 Recommended use of the chemical and restrictions on use:**  
Relevant uses: Fertilizer. For professional users only.  
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:**  
Redox Chemicals LLC  
130 South 100 West PO Box 129  
83318 Burley - Idaho - Estados Unidos  
Phone: 208-678-2610 - Fax: 208-677-3609  
casey@redoxchem.com  
<https://www.redoxgrows.com/>
- 1.4 Emergency phone number:** 208-678-2610

## SECTION 2: HAZARD(S) IDENTIFICATION

- 2.1 Classification of the substance or mixture:**  
**29 CFR 1910.1200:**  
While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
- 2.2 Label elements:**  
**29 CFR 1910.1200:**  
None
- 2.3 Hazards not otherwise classified (HNOC):**  
Non-applicable

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substances:**  
Non-applicable
- 3.2 Mixtures:**  
**Chemical description:** Mixture of substances  
**Components:**  
None of the substances contained in the mixture are above the values fixed in Appendix D to § 1910.1200.

## SECTION 4: FIRST-AID MEASURES

- 4.1 Description of necessary measures:**  
Consult a doctor in case of discomfort with this Safety data Sheet.
- By inhalation:**  
In case of symptoms, move the person affected into fresh air.
- By skin contact:**  
In case of contact it is recommended to clean the affected area thoroughly with water and neutral soap. In case of modifications on the skin (stinging, redness, rashes, blisters,...), seek medical advice with this Safety data Sheet
- By eye contact:**  
Rinse with water until the product has been eliminated. In case of problems, consult a doctor with the SDS of this product.
- By ingestion/aspiration:**

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#### SECTION 4: FIRST-AID MEASURES (continued)

In case of consumption in large quantities, it is recommended to seek medical assistance.

##### **4.2 Most important symptoms/effects, acute and delayed:**

Acute and delayed effects are indicated in sections 2 and 11.

##### **4.3 Indication of immediate medical attention and special treatment needed, if necessary:**

Non-applicable

#### SECTION 5: FIRE-FIGHTING MEASURES

##### **5.1 Suitable (and unsuitable) extinguishing media:**

###### **Suitable extinguishing media:**

Product is non-flammable, low risk of fire by the inflammability characteristics of the product in normal conditions of storage, manipulation and use. In the case of the existence of sustained combustion as a result of improper manipulation, storage or use any type of extinguishing agent can be used (ABC Powder, water,...)

###### **Unsuitable extinguishing media:**

Non-applicable

##### **5.2 Specific hazards arising from the chemical:**

Due to its non-flammable nature, the product does not present a fire risk under normal conditions of storage, manipulation and use.

##### **5.3 Special protective equipment and precautions for fire-fighters:**

Depending on the magnitude of the fire it may be necessary to use full protective clothing and individual respiratory equipment. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...)

###### **Additional provisions:**

As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Only properly trained personnel should be involved in firefighting. Evacuate nonessential personnel from the fire area. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

#### SECTION 6: ACCIDENTAL RELEASE MEASURES

##### **6.1 Personal precautions, protective equipment and emergency procedures:**

###### **For non-emergency personnel:**

Isolate leaks provided that there is no additional risk for the people performing this task.

###### **For emergency responders:**

See section 8.

##### **6.2 Environmental precautions:**

This product is not classified as hazardous to the environment. Keep product away from drains, surface and underground water.

##### **6.3 Methods and materials for containment and cleaning up:**

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

##### **6.4 Reference to other sections:**

See sections 8 and 13.

#### SECTION 7: HANDLING AND STORAGE

##### **7.1 Precautions for safe handling:**

A.- General precautions for safe use

Comply with the current standards 29 CFR 1910 Occupational Safety and Health Standards. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

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## SECTION 7: HANDLING AND STORAGE (continued)

### B.- Technical recommendations for the prevention of fires and explosions

It is recommended to transfer at a slow speed to avoid the creation of electrostatic charges that could affect flammable products. Consult section 10 for conditions and materials that should be avoided.

### C.- Technical recommendations on general occupational hygiene

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

### D.- Technical recommendations to prevent environmental risks

It is not necessary to take special measures to prevent environmental risks. For more information see subsection 6.2

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

### A.- Technical measures for storage

Store in a cool, dry, well-ventilated location

### B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

## 7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the workplace:

There are no applicable occupational exposure limits for the substances contained in the product

### 8.2 Appropriate engineering controls:


#### A.- Individual protection measures, such as personal protective equipment

As a preventative measure it is recommended to use basic Personal Protection Equipment. For more information on Personal Protection Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation, the information on clothing performance must be combined with professional judgment, and a clear understanding of the clothing application, to provide the best protection to the worker. All chemical protective clothing use must be based on a hazard assessment to determine the risks for exposure to chemicals and other hazards. Conduct hazard assessments in accordance with 29 CFR 1910.132.

#### B.- Respiratory protection


The use of protection equipment will be necessary if a mist forms or if the occupational exposure limits are exceeded.

#### C.- Specific protection for the hands

Pictogram	PPE	Remarks
 Mandatory hand protection	Protective gloves against minor risks	Replace gloves in case of any sign of damage. For prolonged periods of exposure to the product for professional /industrial users, we recommend using chemical protection gloves. Use gloves in accordance with manufacturer's use limitations and OSHA standard 1910.138 (29CFR)

As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application.

#### D.- Eye and face protection

Pictogram	PPE	Remarks
 Mandatory face protection	Panoramic glasses against splash/projections.	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing. Use this PPE in accordance with manufacturer's use limitations and OSHA standard 1910.133 (29CFR)

#### E.- Bodily protection

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Pictogram	PPE	Remarks
	Work clothing	Replace before any evidence of deterioration.
	Anti-slip work shoes	Replace before any evidence of deterioration.

### F.- Additional emergency measures

It is not necessary to take additional emergency measures.

### Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

### National volatile organic compound emission standards (40 CFR Part 59):

V.O.C.(weight-percent):	0 % weight
V.O.C. at 68 °F:	0 kg/m <sup>3</sup> (0 g/L)

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

#### Appearance:

Physical state at 68 °F:	Liquid
Appearance:	Fluid
Color:	<input type="checkbox"/> White
Odor:	Characteristic
Odour threshold:	Non-applicable *

#### Volatility:

Boiling point at atmospheric pressure:	212 °F
Vapour pressure at 68 °F:	2350 Pa
Vapour pressure at 122 °F:	12381.01 Pa (12.38 kPa)
Evaporation rate at 68 °F:	Non-applicable *

#### Product description:

Density at 68 °F:	1100 kg/m <sup>3</sup>
Relative density at 68 °F:	1.1
Dynamic viscosity at 68 °F:	1.28 cP
Kinematic viscosity at 68 °F:	1.17 mm <sup>2</sup> /s
Kinematic viscosity at 104 °F:	Non-applicable *
Concentration:	Non-applicable *
pH:	7 - 8
Vapour density at 68 °F:	Non-applicable *
Partition coefficient n-octanol/water 68 °F:	Non-applicable *
Solubility in water at 68 °F:	Non-applicable *
Solubility properties:	Non-applicable *
Decomposition temperature:	Non-applicable *

\*Not relevant due to the nature of the product, not providing information property of its hazards.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Melting point/freezing point:	Non-applicable *
<b>Flammability:</b>	
Flash Point:	Non Flammable (>199.4 °F)
Flammability (solid, gas):	Non-applicable *
Autoignition temperature:	Non-applicable *
Lower flammability limit:	Non-applicable *
Upper flammability limit:	Non-applicable *
<b>Particle characteristics:</b>	
Median equivalent diameter:	Non-applicable

### 9.2 Other information:

#### Information with regard to physical hazard classes:

Explosive properties:	Non-applicable *
Oxidising properties:	Non-applicable *
Corrosive to metals:	Non-applicable *
Heat of combustion:	Non-applicable *
Aerosols-total percentage (by mass) of flammable components:	Non-applicable *

#### Other safety characteristics:

Surface tension at 68 °F:	Non-applicable *
Refraction index:	Non-applicable *

\*Not relevant due to the nature of the product, not providing information property of its hazards.

## SECTION 10: STABILITY AND REACTIVITY

### 10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

### 10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use.

### 10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

### 10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

### 10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Not applicable	Not applicable	Avoid alkalis or strong bases

### 10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO<sub>2</sub>), carbon monoxide and other organic compounds.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects:

LD50 oral > 5000 mg/kg (rat)

#### Dangerous health implications:

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## SECTION 11: TOXICOLOGICAL INFORMATION (continued)

In case of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure:

**A- Ingestion (acute effect):**

- Acute toxicity : Based on available data, the classification criteria are not met
- Corrosivity/Irritability: Based on available data, the classification criteria are not met

**B- Inhalation (acute effect):**

- Acute toxicity : Based on available data, the classification criteria are not met
- Corrosivity/Irritability: Based on available data, the classification criteria are not met

**C- Contact with the skin and the eyes (acute effect):**

- Contact with the skin: Based on available data, the classification criteria are not met
- Contact with the eyes: Based on available data, the classification criteria are not met

**D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):**

- Carcinogenicity: Based on available data, the classification criteria are not met  
IARC: Non-applicable
- Mutagenicity: Based on available data, the classification criteria are not met
- Reproductive toxicity: Based on available data, the classification criteria are not met

**E- Sensitizing effects:**

- Respiratory: Based on available data, the classification criteria are not met
- Skin: Based on available data, the classification criteria are not met

**F- Specific target organ toxicity (STOT) - single exposure:**

Based on available data, the classification criteria are not met

**G- Specific target organ toxicity (STOT)-repeated exposure:**

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

**H- Aspiration hazard:**

Based on available data, the classification criteria are not met

**Other information:**

Non-applicable

**Specific toxicology information on the substances:**

Not available

## SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

### 12.1 Ecotoxicity (aquatic and terrestrial, where available):

Not available

### 12.2 Persistence and degradability:

Not available

### 12.3 Bioaccumulative potential:

Not available

### 12.4 Mobility in soil:

Not available

### 12.5 Results of PBT and vPvB assessment:

Non-applicable

### 12.6 Other adverse effects:

Not described

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1 Disposal methods:

#### Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations. In case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. Waste should not be disposed of to drains. See epigraph 6.2.

#### Regulations related to waste management:

Legislation related to waste management:

40 CFR Part 261- IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

## SECTION 14: TRANSPORT INFORMATION

This product is not regulated for transport.

## SECTION 15: REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations specific for the product in question:

Toxic chemical release reporting under EPCRA section 313 (40 CFR Part 372): Non-applicable

California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986): Non-applicable

The Toxic Substances Control Act (TSCA) : Non-applicable

Massachusetts RTK - Substance List: Non-applicable

New Jersey Worker and Community Right-to-Know Act: Non-applicable

New York RTK - Substance list: Non-applicable

Pennsylvania Worker and Community Right-to-Know Law: Non-applicable

CANADA-Domestic Substances List (DSL): Non-applicable

CANADA-Non-Domestic Substances List (NDSL): Non-applicable

NTP (National Toxicology Program): Non-applicable

Minnesota - Hazardous substances ERTK: Non-applicable

Rhode Island - Hazardous substances RTK: Non-applicable

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096): Non-applicable

Hazardous Air Pollutants (Clean Air Act): Non-applicable

CALIFORNIA LABOR CODE - The Hazardous Substances List: Non-applicable

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Reportable Quantities: Non-applicable

#### Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of the local circumstances in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

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## SECTION 15: REGULATORY INFORMATION (continued)

### Other legislation:

Take into consideration other applicable federal, state, and local laws and local regulations.

## SECTION 16: OTHER INFORMATION

### Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with Appendix d to §1910.1200 - Safety data sheets

### Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

### 29 CFR 1910.1200:

Non-applicable

### Advice related to training:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

### Principal bibliographical sources:

Occupational Safety & Health Administration (OSHA).

### Abbreviations and acronyms:

IMDG: International maritime dangerous goods code

IATA: International Air Transport Association

ICAO: International Civil Aviation Organisation

COD: Chemical Oxygen Demand

BOD5: 5-day biochemical oxygen demand

BCF: Bioconcentration factor

LD50: Lethal Dose 50

CL50: Lethal Concentration 50

EC50: Effective concentration 50

Log-POW: Octanol-water partition coefficient

Koc: Partition coefficient of organic carbon

IARC: International Agency for Research on Cancer

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END OF SAFETY DATA SHEET