

# SAFETY DATA SHEET

Revision Date 18-Dec-2025

Revision Number 5

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

## 1. Identification

|                             |                                                                                                                                |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Name</b>         | <b>Orotic acid monohydrate</b>                                                                                                 |
| <b>Cat No. :</b>            | <b>AC129570000; AC129570050; AC129571000; AC129575000</b>                                                                      |
| <b>CAS No</b>               | 50887-69-9                                                                                                                     |
| <b>Synonyms</b>             | 2,6-Dioxo-1,2,3,6-tetrahydro-4-pyrimidinecarboxylic acid monohydrate;<br>2,4-Dihydroxypyrimidine-6-carboxylic acid monohydrate |
| <b>Recommended Use</b>      | Laboratory chemicals.                                                                                                          |
| <b>Uses advised against</b> | Food, drug, pesticide or biocidal product use.                                                                                 |

### Details of the supplier of the safety data sheet

#### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

#### **Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

## 2. Hazard(s) identification

### **Classification**

This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

|                                                  |            |
|--------------------------------------------------|------------|
| Acute oral toxicity                              | Category 4 |
| Skin Corrosion/Irritation                        | Category 2 |
| Serious Eye Damage/Eye Irritation                | Category 2 |
| Specific target organ toxicity (single exposure) | Category 3 |

### Label Elements

#### **Signal Word**

Warning

#### **Hazard Statements**

Harmful if swallowed  
Causes skin irritation  
Causes serious eye irritation

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Wear protective gloves/protective clothing/eye protection/face protection  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area

**Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing  
Call a POISON CENTER or doctor if you feel unwell

**Skin**

IF ON SKIN: Wash with plenty of soap and water  
If skin irritation occurs: Get medical advice/attention  
Take off contaminated clothing

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth

**Storage**

Store in a well-ventilated place. Keep container tightly closed  
Store locked up

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

**Hazards classified under paragraph (d)(1)(ii) of 1910.1200**

No information available

### 3. Composition/information on Ingredients

| Component                                                                  | CAS No     | Weight % |
|----------------------------------------------------------------------------|------------|----------|
| 4-Pyrimidinecarboxylic acid,<br>1,2,3,6-tetrahydro-2,6-dioxo-, monohydrate | 50887-69-9 | <=100    |

### 4. First-aid measures

|                     |                                                                                                       |
|---------------------|-------------------------------------------------------------------------------------------------------|
| <b>Eye Contact</b>  | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.              |
| <b>Skin Contact</b> | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. |
| <b>Inhalation</b>   | Remove from exposure, lie down. Remove to fresh air.                                                  |

|                                            |                                                                                                                                          |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ingestion</b>                           | Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. If possible drink milk afterwards. |
| <b>Most important symptoms and effects</b> | No information available.                                                                                                                |
| <b>Notes to Physician</b>                  | Treat symptomatically                                                                                                                    |

## 5. Fire-fighting measures

|                                         |                                                                                       |
|-----------------------------------------|---------------------------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b>     | Water spray. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Alcohol resistant foam. |
| <b>Unsuitable Extinguishing Media</b>   | No information available                                                              |
| <b>Flash Point</b>                      | No information available                                                              |
| <b>Method -</b>                         | No information available                                                              |
| <b>Autoignition Temperature</b>         | No information available                                                              |
| <b>Explosion Limits</b>                 |                                                                                       |
| <b>Upper</b>                            | No data available                                                                     |
| <b>Lower</b>                            | No data available                                                                     |
| <b>Sensitivity to Mechanical Impact</b> | No information available                                                              |
| <b>Sensitivity to Static Discharge</b>  | No information available                                                              |

### Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition.

### Hazardous Combustion Products

Nitrogen oxides (NO<sub>x</sub>). Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

### NFPA

**Health**  
2

**Flammability**  
0

**Instability**  
0

**Physical hazards**  
N/A

## 6. Accidental release measures

|                                  |                                                                             |
|----------------------------------|-----------------------------------------------------------------------------|
| <b>Personal Precautions</b>      | Ensure adequate ventilation. Use personal protective equipment as required. |
| <b>Environmental Precautions</b> | See Section 12 for additional Ecological Information.                       |

**Methods for Containment and Clean Up** Sweep up and shovel into suitable containers for disposal.

## 7. Handling and Storage

|                 |                                                                                                                                                                                                                                                                                                     |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Handling</b> | Avoid contact with skin and eyes. Avoid contact with skin and clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Avoid breathing vapors or mists. Do not ingest. If swallowed then seek immediate medical assistance. Wash thoroughly after handling. |
| <b>Storage.</b> | Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Incompatible Materials. Oxidizing agent.                                                                                                                                                                              |

## 8. Exposure controls / personal protection

|                            |                                                                                                                                               |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Exposure Guidelines</b> | This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|

**Engineering Measures** Ensure adequate ventilation, especially in confined areas. Ventilation systems.

**Personal Protective Equipment**

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** No protective equipment is needed under normal use conditions.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

**Appearance**

**Physical State**

Powder Solid

**Color**

Off-white

**Odor**

Odorless

**Odor Threshold**

No information available

**Property**

**Values**

**Remarks**

**• Method**

**Melting Point/Range**

334 °C / 633.2 °F

**Softening Point**

No data available

**Boiling Point/Range**

No information available

**Flash Point**

No information available

**Flammability (liquid)**

Not applicable

**Flammability (solid,gas)**

No information available

**Explosion Limits**

No data available

**Method -** No information available  
Solid

**Autoignition Temperature**

No data available

**Decomposition Temperature**

No data available

**pH**

2.2-3.0

**Viscosity**

Not applicable

1% aq.sol  
Solid

**Water Solubility**

1.3 g/l (20 C)

**Solubility in other solvents**

No information available

**Partition Coefficient (n-octanol/water)**

**Vapor Pressure**

No information available

**Density / Specific Gravity**

No data available

**Bulk Density**

No data available

**Vapor Density**

Not applicable

Solid

**Particle characteristics**

No data available

**Other Information**

**Molecular Formula**

C5 H4 N2 O4 . H2 O

**Molecular Weight**

174.11

**Evaporation Rate**

Not applicable - Solid

## 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Stable under normal conditions.

|                                         |                                                                                                                                                          |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Conditions to Avoid</b>              | Incompatible products.                                                                                                                                   |
| <b>Incompatible Materials</b>           | Oxidizing agent                                                                                                                                          |
| <b>Hazardous Decomposition Products</b> | Nitrogen oxides (NOx), Thermal decomposition can lead to release of irritating gases and vapors, Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ) |
| <b>Hazardous Polymerization</b>         | No information available.                                                                                                                                |
| <b>Hazardous Reactions</b>              | None under normal processing.                                                                                                                            |

## 11. Toxicological information

### Information on expected route of exposure

|                   |                                                                |
|-------------------|----------------------------------------------------------------|
| <b>Inhalation</b> | Avoid breathing dust or spray mist. May be harmful if inhaled. |
| <b>Ingestion</b>  | May be harmful if swallowed.                                   |
| <b>Eyes</b>       | Avoid contact with eyes.                                       |
| <b>Skin</b>       | Avoid contact with skin.                                       |

### Toxicology data for the components

|                                             |                          |
|---------------------------------------------|--------------------------|
| <b>Toxicologically Synergistic Products</b> | No information available |
|---------------------------------------------|--------------------------|

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

|                    |                   |
|--------------------|-------------------|
| <b>Respiratory</b> | No data available |
| <b>Skin</b>        | No data available |

(e) germ cell mutagenicity; No data available

(f) carcinogenicity;

The table below indicates whether each agency has listed any ingredient as a carcinogen

| Component                                                               | CAS No     | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|-------------------------------------------------------------------------|------------|------------|------------|------------|------------|------------|
| 4-Pyrimidinecarboxylic acid, 1,2,3,6-tetrahydro-2,6-dioxo-, monohydrate | 50887-69-9 | Not listed | Not listed | Not listed | Not listed | Not listed |

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

**Target Organs** No information available.

(j) aspiration hazard; Not applicable  
Solid

Symptoms / effects, both acute and delayed No information available.

Other Adverse Effects The toxicological properties have not been fully investigated.

Endocrine Disrupting Properties This product does not contain any known or suspected endocrine disruptors.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains.

Persistence and Degradability Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

## 13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG/IMO Not regulated

## 15. Regulatory Information

### United States of America Inventory

| Component                                                               | CAS No     | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|-------------------------------------------------------------------------|------------|------|-----------------------------------------------|-----------------------------|
| 4-Pyrimidinecarboxylic acid, 1,2,3,6-tetrahydro-2,6-dioxo-, monohydrate | 50887-69-9 | -    | -                                             | -                           |

#### Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT) Not applicable

TSCA 12(b) - Notices of Export Not applicable

### International Inventories

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component                                                   | CAS No     | DSL | NDL | EINECS | PICCS | ENCS | ISHL | AICS | IECSC | KECL |
|-------------------------------------------------------------|------------|-----|-----|--------|-------|------|------|------|-------|------|
| 4-Pyrimidinecarboxylic acid, 1,2,3,6-tetrahydro-2,6-dioxo-, | 50887-69-9 | -   | -   | -      | -     | -    |      | X    | -     | -    |

|             |  |  |  |  |  |  |  |  |  |  |
|-------------|--|--|--|--|--|--|--|--|--|--|
| monohydrate |  |  |  |  |  |  |  |  |  |  |
|-------------|--|--|--|--|--|--|--|--|--|--|

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

### U.S. Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

#### **SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)** Not applicable

**Clean Air Act** Not applicable

**OSHA - Occupational Safety and Health Administration** Not applicable

#### **CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations** Not applicable

#### **U.S. Department of Transportation**

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

### Other International Regulations

**Mexico - Grade** No information available

**Authorisation/Restrictions according to EU REACH** Not applicable

| Component                                                               | CAS No     | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|-------------------------------------------------------------------------|------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 4-Pyrimidinecarboxylic acid, 1,2,3,6-tetrahydro-2,6-dioxo-, monohydrate | 50887-69-9 | -                                                                   | -                                                                             | -                                                                                                     |

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

| Component                                                               | CAS No     | OECD HPV       | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|-------------------------------------------------------------------------|------------|----------------|------------------------------|---------------------------|--------------------------------------------|
| 4-Pyrimidinecarboxylic acid, 1,2,3,6-tetrahydro-2,6-dioxo-, monohydrate | 50887-69-9 | Not applicable | Not applicable               | Not applicable            | Not applicable                             |

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

#### Other International Regulations

| Component                                                               | CAS No     | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|-------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------|------------------------------------|
| 4-Pyrimidinecarboxylic acid, 1,2,3,6-tetrahydro-2,6-dioxo-, monohydrate | 50887-69-9 | Not applicable                                                                            | Not applicable                                                                           | Not applicable             | Not applicable                     |

## 16. Other Information

**Prepared By**

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**Revision Date**

18-Dec-2025

**Print Date**

18-Dec-2025

**Revision Summary**

Updated to the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) which published its Final Rule in the Federal Register revising the Hazard Communication Standard (HCS/HazCom), 29 CFR 1910.1200 (2024) (HCS §1910.1200, 2024), May 20, 2024, effective July 19, 2024.

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**