

# SAFETY DATA SHEET

Creation Date 08-Mar-2012

Revision Date 19-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

**Product Name** 2-Butynoic acid

**Cat No. :** AC308060000; AC308060010; AC308060050

**CAS No** 590-93-2

**Synonyms** Tetrolic acid

**Recommended Use** Laboratory chemicals.

**Uses advised against** 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 |
| Acute dermal toxicity                            | Category 4 |
| Acute Inhalation Toxicity - Dusts and Mists      | Category 4 |
| Skin Corrosion/Irritation                        | Category 1 |
| Serious Eye Damage/Eye Irritation                | Category 1 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Target Organs - Respiratory system.              |            |

### Label Elements

**Signal Word**  
Danger

**Hazard Statements**

Harmful if swallowed  
Harmful in contact with skin  
Causes severe skin burns and eye damage  
May cause respiratory irritation  
Harmful if inhaled

**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  
Use only outdoors or in a well-ventilated area  
Do not breathe dust/fume/gas/mist/vapors/spray

**Response**

Immediately call a POISON CENTER or doctor

**Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing

**Skin**

Take off contaminated clothing and wash before reuse  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

**Ingestion**

Rinse mouth  
Do NOT induce vomiting

**Storage**

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

**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 % |
|-----------------|----------|----------|
| 2-Butynoic acid | 590-93-2 | >95      |

### 4. First-aid measures

**General Advice**

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

**Eye Contact**

Immediate medical attention is required. Rinse immediately with plenty of water, also under

|                                            |                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                            | the eyelids, for at least 15 minutes. Keep eye wide open while rinsing.                                                                                                                                                                                                                                                               |
| <b>Skin Contact</b>                        | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.                                                                                                                                                                                                   |
| <b>Inhalation</b>                          | Remove to fresh air. If breathing is difficult, give oxygen. Call a physician or poison control center immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. |
| <b>Ingestion</b>                           | Do NOT induce vomiting. Immediate medical attention is required. Never give anything by mouth to an unconscious person. Drink plenty of water.                                                                                                                                                                                        |
| <b>Most important symptoms and effects</b> | Causes burns by all exposure routes. . Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation                                     |
| <b>Notes to Physician</b>                  | Treat symptomatically                                                                                                                                                                                                                                                                                                                 |

## 5. Fire-fighting measures

|                                         |                                                                   |
|-----------------------------------------|-------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b>     | CO <sub>2</sub> , dry chemical, dry sand, 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

The product causes burns of eyes, skin and mucous membranes.

### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Thermal decomposition can lead to release of irritating gases and vapors.

### 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**  
3

**Flammability**  
1

**Instability**  
0

**Physical hazards**  
N/A

## 6. Accidental release measures

|                                             |                                                                                                                                                              |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal Precautions</b>                 | Evacuate personnel to safe areas. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.                                  |
| <b>Environmental Precautions</b>            | Do not allow material to contaminate ground water system. Should not be released into the environment. See Section 12 for additional Ecological Information. |
| <b>Methods for Containment and Clean Up</b> | Sweep up and shovel into suitable containers for disposal. Avoid dust formation.                                                                             |

## 7. Handling and Storage

|                 |                                                                                                                                                                                                                                |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Handling</b> | Do not breathe dust. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not ingest. If swallowed then seek immediate medical assistance. |
| <b>Storage.</b> | Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Strong oxidizing agents. Strong acids. Strong bases. Strong reducing agents.                                 |

## 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.                                                                                                     |
| <b>Engineering Measures</b>          | Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.                                                                                                 |
| <b>Personal Protective Equipment</b> |                                                                                                                                                                                                                                                   |
| <b>Eye/face Protection</b>           | Tight sealing safety goggles. Face protection shield.                                                                                                                                                                                             |
| <b>Skin and body protection</b>      | Wear appropriate protective gloves and clothing to prevent skin exposure.                                                                                                                                                                         |
| <b>Respiratory Protection</b>        | Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. |
| <b>Recommended Filter type:</b>      | Particulates filter conforming to EN 143.                                                                                                                                                                                                         |
| <b>Hygiene Measures</b>              | Handle in accordance with good industrial hygiene and safety practice.                                                                                                                                                                            |

## 9. Physical and chemical properties

### Appearance

|                                                |                               |                 |                          |
|------------------------------------------------|-------------------------------|-----------------|--------------------------|
| <b>Physical State</b>                          | Powder Solid                  |                 |                          |
| <b>Color</b>                                   | Light yellow                  |                 |                          |
| <b>Odor</b>                                    | No information available      |                 |                          |
| <b>Odor Threshold</b>                          | No information available      |                 |                          |
| <b>Property</b>                                | <b>Values</b>                 | <b>Remarks</b>  | <b>Method</b>            |
| <b>Melting Point/Range</b>                     | 74 - 78 °C / 165.2 - 172.4 °F |                 |                          |
| <b>Softening Point</b>                         | No data available             |                 |                          |
| <b>Boiling Point/Range</b>                     | 203 °C / 397 °F               | @ 760 mmHg      |                          |
| <b>Flash Point</b>                             | No information available      | <b>Method -</b> | No information available |
| <b>Flammability (liquid)</b>                   | Not applicable                | Solid           |                          |
| <b>Flammability (solid,gas)</b>                | No information available      |                 |                          |
| <b>Explosion Limits</b>                        | No data available             |                 |                          |
| <b>Autoignition Temperature</b>                | No data available             |                 |                          |
| <b>Decomposition Temperature</b>               | No data available             |                 |                          |
| <b>pH</b>                                      | No information available      |                 |                          |
| <b>Viscosity</b>                               | Not applicable                | Solid           |                          |
| <b>Water Solubility</b>                        | Soluble                       |                 |                          |
| <b>Solubility in other solvents</b>            | No information available      |                 |                          |
| <b>Partition Coefficient (n-octanol/water)</b> |                               |                 |                          |
| <b>Vapor Pressure</b>                          | No data available             |                 |                          |
| <b>Density / Specific Gravity</b>              | No data available             |                 |                          |
| <b>Bulk Density</b>                            | No data available             |                 |                          |
| <b>Vapor Density</b>                           | Not applicable                | Solid           |                          |

|                          |                        |
|--------------------------|------------------------|
| Particle characteristics | No data available      |
| <b>Other Information</b> |                        |
| Molecular Formula        | C4 H4 O2               |
| Molecular Weight         | 84.07                  |
| Evaporation Rate         | Not applicable - Solid |

## 10. Stability and reactivity

|                                  |                                                                                                                                   |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Reactive Hazard                  | None known, based on information available                                                                                        |
| Stability                        | Stable under recommended storage conditions.                                                                                      |
| Conditions to Avoid              | Incompatible products. Excess heat.                                                                                               |
| Incompatible Materials           | Strong oxidizing agents, Strong acids, Strong bases, Strong reducing agents                                                       |
| Hazardous Decomposition Products | Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Thermal decomposition can lead to release of irritating gases and vapors |
| Hazardous Polymerization         | Hazardous polymerization does not occur.                                                                                          |
| Hazardous Reactions              | None under normal processing.                                                                                                     |

## 11. Toxicological information

### Information on expected route of exposure

|            |                                                                                                                                  |
|------------|----------------------------------------------------------------------------------------------------------------------------------|
| Inhalation | Harmful by inhalation.                                                                                                           |
| Ingestion  | Ingestion causes burns of the upper digestive and respiratory tracts. Can burn mouth, throat, and stomach. Harmful if swallowed. |
| Eyes       | Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Risk of serious damage to eyes.             |
| Skin       | Causes burns.                                                                                                                    |

### Toxicology data for the components

|                                        |                          |
|----------------------------------------|--------------------------|
| Toxicologically Synergistic Products   | No information available |
| (b) skin corrosion/irritation;         | Category 1 B             |
| (c) serious eye damage/irritation;     | Category 1               |
| (d) respiratory or skin sensitization; |                          |
| Respiratory                            | No data available        |
| Skin                                   | 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     |
|-----------------|----------|------------|------------|------------|------------|------------|
| 2-Butynoic acid | 590-93-2 | 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<br>Solid                                                                                                                                                                                                                                     |
| Other Adverse Effects                      | The toxicological properties have not been fully investigated.                                                                                                                                                                                              |
| Symptoms / effects, both acute and delayed | Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. |
| 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

|                         |                                          |
|-------------------------|------------------------------------------|
| UN-No                   | UN3261                                   |
| Proper Shipping Name    | Corrosive solid, acidic, organic, n.o.s. |
| Technical Shipping Name | 2-Butynoic acid                          |
| Hazard Class            | 8                                        |
| Packing Group           | II                                       |

### TDG

|                         |                                          |
|-------------------------|------------------------------------------|
| UN-No                   | UN3261                                   |
| Proper Shipping Name    | Corrosive solid, acidic, organic, n.o.s. |
| Technical Shipping Name | 2-Butynoic acid                          |
| Hazard Class            | 8                                        |
| Packing Group           | II                                       |

### IATA

|                      |                                          |
|----------------------|------------------------------------------|
| UN-No                | UN3261                                   |
| Proper Shipping Name | Corrosive solid, acidic, organic, n.o.s. |

|                         |                                          |
|-------------------------|------------------------------------------|
| Technical Shipping Name | 2-Butynoic acid                          |
| Hazard Class            | 8                                        |
| Packing Group           | II                                       |
| <b>IMDG/IMO</b>         |                                          |
| UN-No                   | UN3261                                   |
| Proper Shipping Name    | Corrosive solid, acidic, organic, n.o.s. |
| Technical Shipping Name | 2-Butynoic acid                          |
| Hazard Class            | 8                                        |
| Packing Group           | II                                       |

## 15. Regulatory Information

### United States of America Inventory

| Component       | CAS No   | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|-----------------|----------|------|-----------------------------------------------|-----------------------------|
| 2-Butynoic acid | 590-93-2 | X    | ACTIVE                                        | -                           |

#### 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     |
|-----------------|----------|-----|-----|-----------|-------|------|------|------|-------|----------|
| 2-Butynoic acid | 590-93-2 | -   | X   | 209-695-7 | -     | -    | X    | -    | -     | KE-04390 |

**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) |
|-----------------|----------|---------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 2-Butynoic acid | 590-93-2 | -                                                                   | -                                                                             | -                                                                                                     |

**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) |
|-----------------|----------|----------------|------------------------------|---------------------------|--------------------------------------------|
| 2-Butynoic acid | 590-93-2 | 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) |
|-----------------|----------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------|------------------------------------|
| 2-Butynoic acid | 590-93-2 | Not applicable                                                                            | Not applicable                                                                           | Not applicable             | Not applicable                     |

## 16. Other Information

**Prepared By** Product stewardship (Regulatory Affairs)  
Thermo Fisher Scientific  
email - begel.sdsdesk@thermofisher.com

**Creation Date** 08-Mar-2012  
**Revision Date** 19-Dec-2025  
**Print Date** 19-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**