

# SAFETY DATA SHEETS

According to the UN GHS revision 10

Version: 1.1  
Creation Date: July 15, 2024  
Revision Date: March 23, 2025

## SECTION 1: Identification

### 1.1 GHS Product identifier

**Product name** 4771-80-6 3-Cyclohexene-1-carboxylic acid Cyclohex-3-ene-1-carboxylic acid 4-09-00-00114 (Beilstein Handbook Reference) AI3-32141 BRN 1617723 1-Cyclohexene-4-carboxylic acid 3-Cyclohexenecarboxylic acid delta3-Cyclohexenylcarboxylic acid EINECS 225-314-7 Kyselina 1,2,5,6-tetrahydrobenzoova [Czech] NSC 44712 NSC 44883 Kyselina 1,2,5,6-tetrahydrobenzoova

### 1.2 Other means of identification

**Product number** C1920003  
**Other names** Cyclohex-3-enecarboxylic acid; cyclohex-3-ene-1-carboxylic acid; 3-Cyclohexene-1-carboxylic acid

### 1.3 Recommended use of the chemical and restrictions on use

**Identified uses** For laboratory and Industrial use only.  
**Uses advised against** no data available

### 1.4 Supplier's details

**Company** CATO Research Chemicals Inc.  
**Address** 3/F,Building B,No.179 BASIGO, Guangpu Rd East,Huangpu Dist,Guangzhou  
**Telephone** +86-20-81960175

### 1.5 Emergency phone number

**Emergency phone number** +86-20-81960175  
**Service hours** 'Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Acute toxicity - Category 4, Oral  
Skin corrosion, Sub-category 1B

### 2.2 GHS label elements, including precautionary statements

**Pictogram(s)**



**Signal word** Danger  
**Hazard statement(s)** H302 Harmful if swallowed  
H314 Causes severe skin burns and eye damage

**Precautionary statement(s)**  
**Prevention**

P264 Wash ... thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...  
**Response** P301+P317 IF SWALLOWED: Get medical help.  
P330 Rinse mouth.  
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P363 Wash contaminated clothing before reuse.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P316 Get emergency medical help immediately.  
P321 Specific treatment (see ... on this label).  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Storage** P405 Store locked up.  
**Disposal** P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

## 2.3 Other hazards which do not result in classification

no data available

# SECTION 3: Composition/information on ingredients

## 3.1 Substances

| Chemical name                                                                                                                                                                                                                                                                                                                                                      | Common names and synonyms        | CAS number | EC number | Concentration |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------|-----------|---------------|
| 4771-80-6 3-Cyclohexene-1-carboxylic acid Cyclohex-3-ene-1-carboxylic acid 4-09-00-00114 (Beilstein Handbook Reference) A13-32141 BRN 1617723 1-Cyclohexene-4-carboxylic acid 3-Cyclohexenecarboxylic acid delta3-Cyclohexenylcarboxylic acid EINECS 225-314-7 Kyselina 1,2,5,6-tetrahydrobenzoova [Czech] NSC 44712 NSC 44883 Kyselina 1,2,5,6-tetrahydrobenzoova | Cyclohex-3-ene-1-carboxylic acid | 4771-80-6  | 225-314-7 | ≈ 99%         |

# SECTION 4: First-aid measures

## 4.1 Description of necessary first-aid measures

### If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

### Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

### Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

### Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

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

Principal effect is that of mild primary irritation when encountered in high concentrations. Inhalation of vapor causes coughing. Liquid is moderately irritating to eyes and slightly to moderately irritating to skin; excessive exposure could result in dermatitis. (USCG, 1999)

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

no data available

# SECTION 5: Fire-fighting measures

## 5.1 Suitable extinguishing media

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

## 5.2 Specific hazards arising from the chemical

no data available

## 5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

# SECTION 6: Accidental release measures

## 6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

## 6.2 Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

## 6.3 Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate

laws and regulations.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

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

Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**Occupational Exposure limit values**

no data available

**Biological limit values**

no data available

### 8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

**Eye/face protection**

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

**Skin protection**

Wear fire/flammable resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Respiratory protection**

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

**Thermal hazards**

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Physical state</b>                                           | Naphthenic acid is a dark colored liquid with an offensive odor. It is insoluble in water. It will burn though it may take some effort to ignite. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. Since it is a liquid it can easily penetrate the soil and contaminate groundwater and nearby streams. It is used to make paint dryers, detergents, and solvents. |
| <b>Colour</b>                                                   | no data available                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Odour</b>                                                    | no data available                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Melting point/freezing point</b>                             | 203°C(lit.)                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Boiling point or initial boiling point and boiling range</b> | 238°C(lit.)                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Flammability</b>                                             | no data available                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Lower and upper explosion limit/flammability limit</b>       | no data available                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Flash point</b>                                              | 77°C(lit.)                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Auto-ignition temperature</b>                                | no data available                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Decomposition temperature</b>                                | no data available                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>pH</b>                                                       | no data available                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Kinematic viscosity</b>                                      | no data available                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Solubility</b>                                               | no data available                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Partition coefficient n-octanol/water</b>                    | no data available                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Vapour pressure</b>                                          | no data available                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Density and/or relative density</b>                          | 1.081                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Relative vapour density</b>                                  | no data available                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Particle characteristics</b>                                 | no data available                                                                                                                                                                                                                                                                                                                                                                                                                               |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

## 10.2 Chemical stability

no data available

## 10.3 Possibility of hazardous reactions

NAPHTHENIC ACID is a carboxylic acid. Carboxylic acids donate hydrogen ions if a base is present to accept them. They react in this way with all bases, both organic (for example, the amines) and inorganic. Their reactions with bases, called "neutralizations", are accompanied by the evolution of substantial amounts of heat. Neutralization between an acid and a base produces water plus a salt. Carboxylic acids with six or fewer carbon atoms are freely or moderately soluble in water; those with more than six carbons are slightly soluble in water. Soluble carboxylic acid dissociate to an extent in water to yield hydrogen ions. The pH of solutions of carboxylic acids is therefore less than 7.0. Many insoluble carboxylic acids react rapidly with aqueous solutions containing a chemical base and dissolve as the neutralization generates a soluble salt. Carboxylic acids in aqueous solution and liquid or molten carboxylic acids can react with active metals to form gaseous hydrogen and a metal salt. Such reactions occur in principle for solid carboxylic acids as well, but are slow if the solid acid remains dry. Even "insoluble" carboxylic acids may absorb enough water from the air and dissolve sufficiently in it to corrode or dissolve iron, steel, and aluminum parts and containers. Carboxylic acids, like other acids, react with cyanide salts to generate gaseous hydrogen cyanide. The reaction is slower for dry, solid carboxylic acids. Insoluble carboxylic acids react with solutions of cyanides to cause the release of gaseous hydrogen cyanide. Flammable and/or toxic gases and heat are generated by the reaction of carboxylic acids with diazo compounds, dithiocarbamates, isocyanates, mercaptans, nitrides, and sulfides. Carboxylic acids, especially in aqueous solution, also react with sulfites, nitrites, thiosulfates (to give H<sub>2</sub>S and SO<sub>3</sub>), dithionites (SO<sub>2</sub>), to generate flammable and/or toxic gases and heat. Their reaction with carbonates and bicarbonates generates a harmless gas (carbon dioxide) but still heat. Like other organic compounds, carboxylic acids can be oxidized by strong oxidizing agents and reduced by strong reducing agents. These reactions generate heat. A wide variety of products is possible. Like other acids, carboxylic acids may initiate polymerization reactions; like other acids, they often catalyze (increase the rate of) chemical reactions.

## 10.4 Conditions to avoid

no data available

## 10.5 Incompatible materials

no data available

## 10.6 Hazardous decomposition products

no data available

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# SECTION 11: Toxicological information

### Acute toxicity

- Oral: no data available
- Inhalation: no data available
- Dermal: no data available

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

no data available

### Reproductive toxicity

no data available

### STOT-single exposure

no data available

### STOT-repeated exposure

no data available

### Aspiration hazard

no data available

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# SECTION 12: Ecological information

## 12.1 Toxicity

- Toxicity to fish: no data available

- Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

## 12.2 Persistence and degradability

no data available

## 12.3 Bioaccumulative potential

no data available

## 12.4 Mobility in soil

no data available

## 12.5 Other adverse effects

no data available

# SECTION 13: Disposal considerations

## 13.1 Disposal methods

### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

# SECTION 14: Transport information

## 14.1 UN Number

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

## 14.2 UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

## 14.3 Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

## 14.4 Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

## 14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

## 14.6 Special precautions for user

no data available

## 14.7 Transport in bulk according to IMO instruments

no data available

# SECTION 15: Regulatory information

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

| Chemical name                                                          | Common names and synonyms        | CAS number | EC number   |
|------------------------------------------------------------------------|----------------------------------|------------|-------------|
| Cyclohex-3-ene-1-carboxylic acid                                       | Cyclohex-3-ene-1-carboxylic acid | 4771-80-6  | 225-314-7   |
| European Inventory of Existing Commercial Chemical Substances (EINECS) |                                  |            | Listed.     |
| EC Inventory                                                           |                                  |            | Listed.     |
| United States Toxic Substances Control Act (TSCA) Inventory            |                                  |            | Listed.     |
| China Catalog of Hazardous chemicals 2015                              |                                  |            | Not Listed. |
| New Zealand Inventory of Chemicals (NZIoC)                             |                                  |            | Not Listed. |

|                                                                          |             |
|--------------------------------------------------------------------------|-------------|
| Philippines Inventory of Chemicals and Chemical Substances (PICCS)       | Not Listed. |
| Vietnam National Chemical Inventory                                      | Listed.     |
| Chinese Chemical Inventory of Existing Chemical Substances (China IECSC) | Not Listed. |
| Korea Existing Chemicals List (KECL)                                     | Listed.     |

## SECTION 16: Other information

### Information on revision

|               |                |
|---------------|----------------|
| Creation Date | July 15, 2024  |
| Revision Date | March 23, 2025 |

### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Any questions regarding this SDS, Please send your inquiry to [info@cato-chem.com](mailto:info@cato-chem.com)

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