

## Chemical Safety Data Sheet MSDS / SDS

**1-ETHYL-7-CHLORO-6-FLUORO-1,4-DIHYDRO-4-OXOQUINOLINE-3-CARBOXYLIC ACID**Revision Date:2026-05-31 Revision Number:1

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name : 1-ETHYL-7-CHLORO-6-FLUORO-1,4-DIHYDRO-4-OXOQUINOLINE-3-CARBOXYLIC ACID  
CBnumber : CB6669991  
CAS : 68077-26-9  
EINECS Number : 614-262-4  
Synonyms : 7-chloro-1-ethyl-6-fluoro-4-oxo-1,4-dihydroquinoline-3-carboxylic acid,NORFLOXACIN Q-ACID

**Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

**Company Identification**

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 010-86108875

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**SECTION 2: Hazards identification****GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Warning

**Precautionary statements**

P273 Avoid release to the environment.

P501 Dispose of contents/container to.....

**Hazard statements**

H412 Harmful to aquatic life with long lasting effects

**SECTION 3: Composition/information on ingredients****Substance**

Product name	: 1-ETHYL-7-CHLORO-6-FLUORO-1,4-DIHYDRO-4-OXOQUINOLINE-3-CARBOXYLIC ACID
Synonyms	: 7-chloro-1-ethyl-6-fluoro-4-oxo-1,4-dihydroquinoline-3-carboxylic acid,NORFLOXACIN Q-ACID
CAS	: 68077-26-9
EC number	: 614-262-4
MF	: C12H9ClFNO3
MW	: 269.66

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## SECTION 4: First aid measures

### **If inhaled**

After inhalation: fresh air.

### **In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

### **In case of eye contact**

After eye contact: rinse out with plenty of water. Remove contact lenses.

### **If swallowed**

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

### **Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

### **Protection of first-aiders**

For personal protection see section 8.

### **Notes to physician**

No data available

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## SECTION 5: Firefighting measures

### **Suitable extinguishing media**

Water Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

### **Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

### **Specific hazards during fire fighting**

Combustible. Development of hazardous combustion gases or vapours possible in the event of fire.

### **Hazardous combustion products**

Carbon oxides Nitrogen oxides (NO<sub>x</sub>) Hydrogen chloride gas Hydrogen fluoride

### **Specific extinguishing methods**

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

### **Special protective equipment for fire-fighters**

In the event of fire, wear self-contained breathing apparatus.

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## **SECTION 6: Accidental release measures**

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

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.

### **Environmental precautions**

Do not let product enter drains.

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

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

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## **SECTION 7: Handling and storage**

### **Handling**

#### **Avoidance of contact**

Strong oxidizing agents

### **Storage**

#### **Further information on storage conditions**

Tightly closed. Dry.

#### **Storage class**

11, Combustible Solids

#### **Recommended storage temperature**

Recommended storage temperature see product label.

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## **SECTION 8: Exposure controls/personal protection**

### **Ingredients with workplace control parameters**

Contains no substances with occupational exposure limit values.

### **Engineering measures**

No data available

## Personal protective equipment

### Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

### Recommended Filter type

Filter type P1

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Safety glasses

### Hand protection

#### Material

Nitrile rubber

#### Break through time

480 min

#### Glove thickness

0.11 mm

#### Protective index

Full contact

#### Manufacturer

KCL 741 L

#### Material

Nitrile rubber

#### Break through time

480 min

#### Glove thickness

0.11 mm

#### Protective index

Splash contact

#### Manufacturer

KCL 741 L

#### Remarks

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D- 36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

### Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

solid

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Bioaccumulation is not expected.

**Color**

off-white, light yellow

**Odor**

No data available

**Odor Threshold**

No data available

**pH**

No data available

**Melting point/ range**

208 - 210 °C

**Boiling point/boiling range**

437.9±45.0 °C(Predicted)

**Flash point**

Not applicable

**Evaporation rate**

No data available

**Flammability (solid, gas)**

No data available

**Flammability (liquids)**

No data available

**Burning rate**

No data available

**Upper explosion limit / Upper flammability limit**

No data available

**Lower explosion limit / Lower flammability limit**

No data available

**Vapor pressure**

No data available

**Relative vapor density**

No data available

### **Relative density**

1.3905 (estimate)

### **Density**

1.3905 (estimate)

### **Water solubility**

No data available

### **Partition coefficient: n-octanol/water**

log Pow: ca. -0.21 (25 °C)

### **Autoignition temperature**

No data available

### **Decomposition temperature**

No data available

### **Viscosity, dynamic**

No data available

### **Viscosity, kinematic**

No data available

### **Flow time**

No data available

### **Explosive properties**

No data available

### **Oxidizing properties**

none

### **Molecular weight**

269.66 g/mol

### **Particle characteristics Particle size**

No data available

### **Solubility**

DMSO (Slightly, Heated), Methanol (Slightly, Heated)

### **Physical state**

powder

## SECTION 10: Stability and reactivity

### Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### Possibility of hazardous reactions

No data available

### Conditions to avoid

no information available

### Incompatible materials

Strong oxidizing agents

### Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

#### Skin corrosion/irritation

Classified based on available data. For more details, see section 2

#### Serious eye damage/eye irritation

Classified based on available data. For more details, see section 2

#### Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

#### Germ cell mutagenicity

Classified based on available data. For more details, see section 2

#### Carcinogenicity

Classified based on available data. For more details, see section 2

#### Reproductive toxicity

Classified based on available data. For more details, see section 2

#### Specific target organ toxicity - single exposure

Classified based on available data. For more details, see section 2

#### **Specific target organ toxicity - repeated exposure**

Classified based on available data. For more details, see section 2

#### **Aspiration hazard**

Classified based on available data. For more details, see section 2

### **11.2 Additional Information**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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## **SECTION 12: Ecological information**

### **Ecotoxicity**

#### **Components:**

#### **7-Chloro-1-ethyl-6-fluoro-1,4-dihydro-4-oxo-3-quinolinecarboxylic acid:**

#### **Ecotoxicology Assessment**

##### **Chronic aquatic toxicity**

Harmful to aquatic life with long lasting effects.

##### **Persistence and degradability**

No data available

##### **Bioaccumulative potential**

#### **Components:**

#### **7-Chloro-1-ethyl-6-fluoro-1,4-dihydro-4-oxo-3-quinolinecarboxylic acid:**

##### **Partition coefficient: noctanol/water**

log Pow: ca. -0.21 (25 °C) Remarks: Bioaccumulation is not expected.

##### **Mobility in soil**

No data available

##### **Other adverse effects**

No data available

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## **SECTION 13: Disposal considerations**

### **Disposal methods**

#### **Waste from residues**

Offer surplus and non-recyclable solutions to a licensed disposal company.

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## SECTION 14: Transport information

### International Regulations

#### IATA-DGR

UN/ID No. : Not applicable

Proper shipping name : Not applicable

Class : Not applicable

Subsidiary risk : Not applicable

Packing group : Not applicable

Labels : Not applicable

Packing instruction (cargo aircraft) : Not applicable

Packing instruction (passenger aircraft) : Not applicable

#### IMDG-Code

UN number : Not applicable

Proper shipping name : Not applicable

Class : Not applicable

Subsidiary risk : Not applicable

Packing group : Not applicable

Labels : Not applicable

EmS Code : Not applicable

Marine pollutant : no

#### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National regulation GB 6944/12268

UN number : Not applicable

Proper shipping name : Not applicable

Class : Not applicable

Subsidiary risk : Not applicable

Packing group : Not applicable

Labels : Not applicable

#### Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

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## SECTION 15: Regulatory information

Downstream users need to comply with the conditions of safe use of the chemical, understand the environmental and health hazard and risk management measures identified on the SDS as well as the local/national regulations concerning the chemical.

#### National regulatory information

## Regulations on Safety Management of Hazardous Chemicals

### Catalogue of Hazardous Chemicals

Not applicable

### Hazardous Chemicals for Priority Management

Not applicable under SAWS

### Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

### China Severely Restricted Toxic Chemicals for Import and Export

Not applicable

### Measures on the Environmental Administration of New Chemical Substances Registration

#### Registration/Notification number

B1A222215948

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## SECTION 16: Other information

### Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals

ANTT - National Agency for Transport by Land of Brazil

ASTM - American Society for the Testing of Materials

bw - Body weight

CMR - Carcinogen, Mutagen or Reproductive Toxicant

DIN - Standard of the German Institute for Standardisation

DSL - Domestic Substances List (Canada)

EC<sub>x</sub> - Concentration associated with x% response

EL<sub>x</sub> - Loading rate associated with x% response

EmS - Emergency Schedule

ENCS - Existing and New Chemical Substances (Japan)

ErC<sub>x</sub> - Concentration associated with x% growth rate response

ERG - Emergency Response Guide

GHS - Globally Harmonized System

GLP - Good Laboratory Practice

IARC - International Agency for Research on Cancer

IATA - International Air Transport Association

IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

IC<sub>50</sub> - Half maximal inhibitory concentration

ICAO - International Civil Aviation Organization

IECSC - Inventory of Existing Chemical Substances in China

IMDG - International Maritime Dangerous Goods

IMO - International Maritime Organization  
ISHL - Industrial Safety and Health Law (Japan)  
ISO - International Organisation for Standardization  
KECI - Korea Existing Chemicals Inventory  
LC50 - Lethal Concentration to 50 % of a test population  
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)  
MARPOL - International Convention for the Prevention of Pollution from Ships  
n.o.s. - Not Otherwise Specified  
Nch - Chilean Norm  
NO(A)EC - No Observed (Adverse) Effect Concentration  
NO(A)EL - No Observed (Adverse) Effect Level  
NOELR - No Observable Effect Loading Rate  
NOM - Official Mexican Norm  
NTP - National Toxicology Program  
NZIoC - New Zealand Inventory of Chemicals  
OECD - Organization for Economic Co-operation and Development  
OPPTS - Office of Chemical Safety and Pollution Prevention  
PBT - Persistent, Bioaccumulative and Toxic substance  
PICCS - Philippines Inventory of Chemicals and Chemical Substances  
(Q)SAR - (Quantitative) Structure Activity Relationship  
REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals  
SADT - Self-Accelerating Decomposition Temperature  
SDS - Safety Data Sheet  
TCSI - Taiwan Chemical Substance Inventory  
TDG - Transportation of Dangerous Goods  
TECI - Thailand Existing Chemicals Inventory  
TSCA - Toxic Substances Control Act (United States)  
UN - United Nations  
UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods  
vPvB - Very Persistent and Very Bioaccumulative  
WHMIS - Workplace Hazardous Materials Information System

**Disclaimer:**

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.