



Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: Quinoline

SDS No. : 6721E-2

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Chemical Safety Management Department

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Acute toxicity (Oral): Category 3

Acute toxicity (Dermal): Category 3

Skin corrosion/irritation: Category 2

Serious eye damage/eye irritation: Category 2A

Germ cell mutagenicity: Category 2

Carcinogenicity: Category 1B

Specific target organ toxicity – single exposure: Category 1(nervous system)

Specific target organ toxicity – single exposure: Category 3 (Respiratory tract irritation)

Specific target organ toxicity – single exposure: Category 3(Narcosis)

Specific target organ toxicity – repeated exposure: Category 2(nasal cavity; liver)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 1

Hazardous to the aquatic environment (Long-term): Category 1

Label elements



Signal word: Danger

HAZARD STATEMENT

Toxic if swallowed

Toxic in contact with skin

Causes skin irritation

Causes serious eye irritation

Suspected of causing genetic defects

May cause cancer

Causes damage to organs(nervous system)

May cause respiratory irritation

May cause drowsiness or dizziness

May cause damage to organs through prolonged or repeated exposure(nasal cavity; liver)

Very toxic to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

**Prevention**

Avoid release to the environment.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wash contaminated parts thoroughly after handling.
Wear protective gloves or protective clothing.
Wear eye protection/face protection.
Do not eat, drink or smoke when using this product.

Response

Collect spillage.
Get medical advice/attention if you feel unwell.
IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER/doctor/physician if you feel unwell.
IF exposed or concerned: Call a POISON CENTER/doctor/physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention.
Take off immediately all contaminated clothing and wash it before reuse.
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.
IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.
IF SWALLOWED: Rinse mouth.

Storage

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

Disposal

Dispose of contents/container in accordance with local/national regulation.

3. Composition/information on ingredients**Mixture/Substance selection:****Substance**

Ingredient name:Quinoline
Content (%):95(min)
Chemical formula:C₉H₇N
Chemicals No, Japan:5-794
CAS No.:91-22-5
MW:129.16
ECNO:202-051-6

Note : The figures shown above are not the specifications of the product.

4. First-aid measures**Descriptions of first-aid measures****General measures**

Get medical advice/attention if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water or shower.
Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.

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.

IF SWALLOWED

Rinse mouth.

Immediately call a POISON CENTER/doctor/physician.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use foam, dry powder, CO2 to extinguish.

Unsuitable extinguishing media

Indoor firefighting equipment or outdoor firefighting equipment

Sprinkler equipment

Dry-powder firefighting equipment – except for phosphate etc.,hydrogen carbonate etc.

Straight stream water extinguisher

Water mist extinguisher

Reinforcing liquid jet extinguisher

Dry-powder extinguisher – except for phosphate etc.,hydrogen carbonate etc.

Bucket of water or tank of water

Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

Preventive measures for secondary accident

Collect spillage.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No



smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Use only outdoors or in a well-ventilated area.

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Take off immediately all contaminated clothing and wash it before reuse.

Storage

Conditions for safe storage

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

Keep under lock and key.

Container and packaging materials for safe handling

Glass

8. Exposure controls/personal protection

Control parameters

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection.

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid

Color: Colorless to light yellow

Odor: Characteristic odor

Melting point/Freezing point: -15°C

Boiling point or initial boiling point: (Quinoline)238°C

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit:

Lower explosion limit: 1.2 vol %

Upper explosion limit: 7.0 vol %



Flash point: (Quinoline)(C.C.) 101°C
Auto-ignition temperature: (Quinoline)480°C
Decomposition temperature data is not available.
pH data is not available.
Kinematic viscosity data is not available.
Solubility:
 Solubility in water: (very poor) 0.61 g/100 ml (20°C)
 n-Octanol/water partition coefficient: log Pow2.06
 Vapor pressure: 8 Pa (20°C)
 Density and/or relative density: 1.09
 Relative vapor density (Air=1): 4.5
 Relative density of the Vapor/air – mixture at 20°C (Air = 1): 1
 Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

May discolor on exposure to air.

Possibility of hazardous reactions

Decomposes on heating and on burning. This produces toxic fumes including nitrogen oxides.

Reacts with strong oxidants, acids and anhydrides. (ICSC 0071)

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Acids, Strong oxidizing agents, Anhydrides

Hazardous decomposition products

Nitrogen oxides

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Quinoline)

rat LD50=262mg/kg (AICIS IMAP, 2015)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

(Quinoline)

rabbit LD50=0.54mL/kg (590mg/kg or 593mg/kg) (AICIS IMAP, 2015)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Quinoline)

rabbit moderate to severe irritation (PATTY 6th, 2012) et al.

Serious eye damage/irritation

[GHS Cat. Japan, base data]

(Quinoline)

rabbit moderate to severe irritation (PATTY 6th, 2012) et al.

Allergenic and sensitizing effects data is not available.

Germ cell mutagenicity

[GHS Cat. Japan, base data]

(Quinoline)

cat. 2; IRIS Summary, 2001

Carcinogenicity

[GHS Cat. Japan, base data]

(Quinoline)

cat. 1B; (MHLW Carcinogenicity Test Report Results, 2003 et al.)

(Quinoline)

IARC-Gr.2B : Possibly carcinogenic to humans

(Quinoline)

EU-Category 1B; Substances presumed to have carcinogenic potential for humans

Reproductive toxicity data is not available.

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

(Quinoline)

nervous system (HSDB, Access on April 2020; AICIS IMAP, 2015)

[cat.3 (resp. irrit.)]

[GHS Cat. Japan, base data]

(Quinoline)

respiratory tract irritation (HSDB, Access on April 2020; MOE Result of the initial environmental risk assessment of chemicals vol. 11, 2013)

[cat.3 (drow./dizz.)]

[GHS Cat. Japan, base data]

(Quinoline)

narcotic effect (HSDB, Access on April 2020)

STOT-repeated exposure

[cat.2]

[GHS Cat. Japan, base data]

(Quinoline)

nasal cavity; liver (MOE Result of the initial environmental risk assessment of chemicals vol. 11, 2013; MHLW Carcinogenicity Test Report Results, 1999)

Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity

Aquatic toxicity

Very toxic to aquatic life with long lasting effects

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

(Quinoline)

Fish (*Pimephales promelas*) LC50=0.44mg/L/96hr (MOE Result of the initial environmental risk assessment of chemicals, Vol.11, 2013)

Hazardous to the aquatic environment (Long-term)

[GHS Cat. Japan, base data]

(Quinoline)

Crustacea (*Daphnia magna*) NOEC=0.8mg/L/21days (MOE Result of the initial environmental risk assessment of chemicals, Vol.11, 2013)

Water solubility

(Quinoline)

Not soluble in cold water. Completely soluble in hot water (ICSC, 1993)

Persistence and degradability



(Quinoline)
Not degrade rapidly (BIOWIN)
Bioaccumulative potential
(Quinoline)
log Pow=2.06 (ICSC, 2008); BCF=3.8 (Check & Review, Japan)
Mobility in soil
Mobility in soil data is not available.
Other adverse effects
Ozone depleting chemical data is not available.

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging
Waste treatment methods
Avoid release to the environment.
Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No. or ID No.: 2656
UN Proper Shipping Name :
QUINOLINE
Class or division (Transport hazard class) : 6.1
Packing group : III
ERG GUIDE No.: 154
IMDG Code (International Maritime Dangerous Goods Regulations)
UN No.: 2656
Proper Shipping Name :
QUINOLINE
Class or division : 6.1
Packing group : III
IATA Dangerous Goods Regulations
UN No.: 2656
Proper Shipping Name :
QUINOLINE
Class or division : 6.1
Hazard labels : Toxic
Packing group : III
Environmental hazards
MARPOL Annex III – Prevention of pollution by harmful substances
Marine pollutants (yes/no) : yes
MARPOL Annex V – Prevention of pollution by garbage discharge
Carcinogenicity: cat.1, 1A, 1B
Quinoline
Hazardous to the aquatic environment – acute hazard: cat.1
Quinoline
Hazardous to the aquatic environment – long-term hazard: cat.1, 2
Quinoline



15. Regulatory Information

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

Chemicals listed in TSCA Inventory

Quinoline

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

GHS classification and labelling

Acute Tox. 3: H301 Toxic if swallowed

Acute Tox. 3: H311 Toxic in contact with skin

Skin Irrit. 2: H315 Causes skin irritation

Eye Irrit. 2A: H319 Causes serious eye irritation

Muta. 2: H341 Suspected of causing genetic defects

Carc. 1B: H350 May cause cancer

STOT SE 1: H370 Causes damage to organs

STOT SE 3: H335 May cause respiratory irritation

STOT SE 3: H336 May cause drowsiness or dizziness

STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure

Aquatic Chronic 1: H410 Very toxic to aquatic life with long lasting effects

Reference Book

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN

IMDG Code, 2018 Edition (Incorporating Amendment 39-18)

IATA Dangerous Goods Regulations (62nd Edition) 2021

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2021 TLVs and BEIs. (ACGIH)

Supplier's data/information

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2020).