

Material Safety Data Sheet

Quinoline, 99%

ACC# 01371

Section 1 - Chemical Product and Company Identification

MSDS Name: Quinoline, 99%

Catalog Numbers: AC221140000, AC221140050, AC221140250, AC221141000, AC221145000, NC9232983, NC9315868, XXAC22114-40KG, XXAC22114-50KG

Synonyms: 1-Azanaphthalene; 1-Benzazine; Benzopyridine

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
91-22-5	QUINOLINE	99%	202-051-6

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear yellow to brown liquid.

Toxic. **Warning!** Harmful if absorbed through the skin. Harmful if swallowed. Causes eye and skin irritation. May cause respiratory and digestive tract irritation. Light sensitive. May cause liver damage. Hygroscopic (absorbs moisture from the air).

Target Organs: Liver, eyes.

Potential Health Effects

Eye: Causes severe eye irritation. May result in corneal injury. May cause retinitis. May cause retinal damage.

Skin: Causes skin irritation. Harmful if absorbed through the skin. If absorbed, may cause symptoms similar to those for ingestion. If absorbed, causes symptoms similar to those of inhalation.

Ingestion: Harmful if swallowed. May cause irritation of the digestive tract.

Inhalation: May cause respiratory muscle paralysis. Other symptoms include lethargy, irritation, sore throat, nose bleeds, hoarseness, cough, chest tightness, difficulty breathing, nausea, vomiting, dizziness, fever.

Chronic: Not available. Can cause damage to the retina. It can also cause the development of a skin allergy with rash and itching.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: Containers can build up pressure if exposed to heat and/or fire. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors can travel to a source of ignition and flash back.

Extinguishing Media: For large fires, use water spray, fog, or alcohol-resistant foam. For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.

Flash Point: 101 deg C (213.80 deg F)

Autoignition Temperature: 480 deg C (896.00 deg F)

Explosion Limits, Lower:1.20 vol %

Upper: 7.00 vol %

NFPA Rating: (estimated) Health: 2; Flammability: 1; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use only in a well-ventilated area. Avoid breathing vapors from heated material. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Keep away from heat, sparks and flame. Do not ingest or inhale.

Storage: Keep away from heat and flame. Keep away from sources of ignition. Do not store in direct sunlight. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Material darkens in color on storage.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
QUINOLINE	none listed	none listed	none listed

OSHA Vacated PELs: QUINOLINE: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

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

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: 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.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear yellow to brown

Odor: Peculiar odor.

pH: Not available.

Vapor Pressure: < 0.1 mbar @ 20

Vapor Density: 4.45

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 237.1 deg C

Freezing/Melting Point: -14.78 deg C

Decomposition Temperature: Not available.

Solubility: slightly soluble

Specific Gravity/Density: 1.0950g/cm³

Molecular Formula: C₉H₇N

Molecular Weight: 129.16

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Substance undergoes color change upon exposure to light and air.

Conditions to Avoid: Incompatible materials, light, excess heat, exposure to moist air or water.

Incompatibilities with Other Materials: Linseed oil + thionyl chloride, perchromates, dinitrogen tetroxide, hydrogenperoxide, maleic anhydride. May attack some plastics. May be combustible when exposed to heat or flames.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide, nitrogen.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 91-22-5: VA9275000

LD50/LC50:

CAS# 91-22-5:

Draize test, rabbit, skin: 100 mg/24H Moderate;

Oral, rat: LD50 = 331 mg/kg;

Skin, rabbit: LD50 = 540 uL/kg;

Carcinogenicity:

CAS# 91-22-5:

- **ACGIH:** Not listed.
- **California:** carcinogen, initial date 10/24/97
- **NTP:** Not listed.
- **IARC:** Not listed.

Epidemiology: Questionable carcinogen with experimental neoplastic and tumorigenic data.

Teratogenicity: No data available.

Reproductive Effects: No data available.

Mutagenicity: Mutation data has been reported.

Neurotoxicity: No data available.

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. "Several studies of aquatic toxicity have shown lethal concentrations in about 10 different types of fish to range from 5 to 50 mg/l. The toxic threshold in Daphnia is 52 mg/l." (Patty's Industrial Hygiene and Toxicology, 4th Ed.)

Environmental: See "The dictionary of substances and their effects" for complete information (editor : M.L.Richardson).

Physical: No information available.

Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	QUINOLINE	QUINOLINE
Hazard Class:	6.1	6.1
UN Number:	UN2656	UN2656
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 91-22-5 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 91-22-5: 5000 lb final RQ; 2270 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 91-22-5: immediate.

Section 313

This material contains QUINOLINE (CAS# 91-22-5, 99%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 91-22-5 is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

CAS# 91-22-5 is listed as a Hazardous Substance under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 91-22-5 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

The following statement(s) is(are) made in order to comply with the California Safe Drinking Water Act:

WARNING: This product contains QUINOLINE, a chemical known to the state of California to cause cancer.

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN

Risk Phrases:

R 21/22 Harmful in contact with skin and if swallowed.

R 36 Irritating to eyes.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

WGK (Water Danger/Protection)

CAS# 91-22-5: 2

Canada - DSL/NDSL

CAS# 91-22-5 is listed on Canada's DSL List.

Canada - WHMIS

not available.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 91-22-5 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997

Revision #4 Date: 10/03/2005

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.