

# Material Safety Data Sheet

## Quinoline

ACC# 20060

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Quinoline

**Catalog Numbers:** AC132190000, AC132190010, AC132195000, AC221140000, AC221140050, AC221140250, AC221141000, AC221145000, AC418790000, AC418790050, AC418790250, AC418791000, Q35-500

**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	>96	202-051-6

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: clear yellow to brown liquid.

**Warning!** Causes eye irritation and possible injury. Harmful in contact with skin and if swallowed. Possible risks of irreversible effects. Causes skin and respiratory tract irritation. Cancer suspect agent. May cause liver damage.

**Target Organs:** Liver, respiratory system, eyes, skin, optic nerve.

#### Potential Health Effects

**Eye:** May result in corneal injury. May cause retinal damage. Causes eye irritation and possible burns.

**Skin:** Harmful if absorbed through the skin. May cause severe irritation and possible burns. If absorbed, may cause symptoms similar to those for ingestion.

**Ingestion:** Harmful if swallowed. May cause irritation of the digestive tract. May cause liver damage. Absorption of quinoline into the body may lead to nausea, vomiting, gastro-intestinal cramps, fever, a feeling of dizziness, irregular rapid pulse, and collapse. Quinoline has been reported to be toxic to the retina or optic nerve.

**Inhalation:** Causes respiratory tract irritation. May cause respiratory muscle paralysis. Other symptoms include lethargy, irritation, sore throat, nose bleeds, hoarseness, cough, chest tightness, difficulty breathing, nausea, vomiting, dizziness, fever. Extreme exposures could result in a build-up of fluid in the lungs (pulmonary edema) that might be fatal in severe cases.

**Chronic:** Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion. Chronic exposure may cause liver damage. Cancer suspect agent.

## Section 4 - First Aid Measures

**Eyes:** Get medical aid immediately. Immediately flush eyes with plenty of water for at least 15 minutes.

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

**Ingestion:** Do not induce vomiting. 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:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

**Extinguishing Media:** In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.

**Flash Point:** 100.6 deg C ( 213.08 deg F)

**Autoignition Temperature:** 480 deg C ( 896.00 deg F)

**Explosion Limits, Lower:** 1.20

**Upper:** 7.00

**NFPA Rating:** (estimated) Health: 3; Flammability: 2; 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. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid breathing vapors from heated material. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use only in a chemical fume hood. Discard contaminated shoes.

**Storage:** 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.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. 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 chemical splash goggles and face shield.

**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:** 7.3

**Vapor Pressure:** 1 mm Hg @59.7C

**Vapor Density:** 4.45

**Evaporation Rate:**Not available.

**Viscosity:** Not available.

**Boiling Point:** 237 deg C

**Freezing/Melting Point:**-15 deg C

**Decomposition Temperature:**Not available.

**Solubility:** slightly soluble in cold water

**Specific Gravity/Density:** 1.0850

**Molecular Formula:**C<sub>9</sub>H<sub>7</sub>N

**Molecular Weight:**129.0557

## 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.

**Incompatibilities with Other Materials:** Perchromates, dinitrogen tetroxide, hydrogen peroxide, linseed oil + thionyl chloride, maleic anhydride.

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

**Hazardous Polymerization:** Has not been reported.

## 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:** No information found**Teratogenicity:** No information found**Reproductive Effects:** No information found**Mutagenicity:** Mutation data reported.**Neurotoxicity:** No information found**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."

**Environmental:** No information available.**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
<b>Shipping Name:</b>	QUINOLINE	QUINOLINE
<b>Hazard Class:</b>	6.1	6.1
<b>UN Number:</b>	UN2656	UN2656
<b>Packing Group:</b>	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 &amp; 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, >96%), 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 37/38 Irritating to respiratory system and skin.

R 40 Limited evidence of a carcinogenic effect.

R 41 Risk of serious damage to eyes.

R 68 Possible risk of irreversible effects.

#### **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**

This product has a WHMIS classification of B3, D1B, E.

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.

<b>Section 16 - Additional Information</b>
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**MSDS Creation Date:** 12/12/1997

**Revision #6 Date:** 10/29/2007

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