



QUINOLINE (D7, 98%)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 13/04/2011

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Version: 2.1

DLM-1158

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

1.1. Product identifier

Product form	: Substance
Substance name	: QUINOLINE (D7, 98%)
EC Index-No.	: 613-281-00-5 (Unlabeled)
EC-No.	: 202-051-6 (Unlabeled)
CAS-No.	: 34071-94-8
Product code	: DLM-1158
Formula	: C9D7N
Synonyms	: 1-Benzazine / 2,3-Benzopyridine

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category	: Professional use
Industrial/Professional use spec	: For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000

cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)

International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4 (Oral)	H302
Acute Tox. 3 (Dermal)	H311
Skin Irrit. 2	H315
Eye Irrit. 2	H319
Muta. 2	H341
Carc. 1A	H350
Aquatic Chronic 2	H411

Full text of hazard classes and H-statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xi; R36/38

Carc.Cat.1; R45

Carc.Cat.1; R49

Muta.Cat.3; R68

N; R51/53

T; R24

Xn; R22

Full text of R-phrases: see section 16

GHS-US classification

Acute Tox. 4 (Oral)	H302
Acute Tox. 3 (Dermal)	H311
Skin Irrit. 2	H315

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Eye Irrit. 2A	H319
Muta. 2	H341
Carc. 1A	H350
Aquatic Acute 2	H401
Aquatic Chronic 2	H411

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Liver.

2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: H302 - Harmful if swallowed
H311 - Toxic in contact with skin
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H341 - Suspected of causing genetic defects (in contact with skin, if inhaled, if swallowed)
H350 - May cause cancer (in contact with skin, if inhaled, if swallowed)
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (CLP)

: P264 - Wash Both hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.
P280 - Wear protective clothing, protective gloves.
P301+P312 - IF SWALLOWED: Call a doctor if you feel unwell.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.

GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H302 - Harmful if swallowed
H311 - Toxic in contact with skin
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H341 - Suspected of causing genetic defects (Dermal, Inhalation, oral)
H350 - May cause cancer (Dermal, Inhalation, oral)
H401 - Toxic to aquatic life
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P264 - Wash Both hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.
P280 - Wear protective clothing, protective gloves.
P301+P312 - If swallowed: Call a doctor if you feel unwell
P302+P352 - If on skin: Wash with plenty of water
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - If exposed or concerned: Get medical advice/attention.
P312 - Call a doctor if you feel unwell
P321 - Specific treatment (see Hazard pictograms (CLP) on this label)
P322 - Specific treatment (see Hazard pictograms (CLP) on this label)
P330 - Rinse mouth.

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P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P361+P364 - Take off immediately all contaminated clothing and wash it before reuse.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P391 - Collect spillage.
P405 - Store locked up.
P501 - Dispose of contents/container to Comply with applicable regulations

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
QUINOLINE (D7, 98%)	(CAS-No.) 34071-94-8 (EC-No.) 202-051-6 (Unlabeled) (EC Index-No.) 613-281-00-5 (Unlabeled)	100	Xi; R36/38 Carc.Cat.1; R45 Carc.Cat.1; R49 Muta.Cat.3; R68 N; R51/53 T; R24 Xn; R22
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
QUINOLINE (D7, 98%)	(CAS-No.) 34071-94-8 (EC-No.) 202-051-6 (Unlabeled) (EC Index-No.) 613-281-00-5 (Unlabeled)	100	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 2, H341 Carc. 1A, H350 Aquatic Chronic 2, H411

Full text of R- and H- phrases: see section 16

Name	Product identifier	%	GHS-US classification
QUINOLINE (D7, 98%) (Main constituent)	(CAS-No.) 34071-94-8	100	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Muta. 2, H341 Carc. 1A, H350 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

Full text of H-phrases: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

First-aid measures after inhalation : If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.

First-aid measures after skin contact : Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

First-aid measures after eye contact : Flush eye with water for 15 minutes. Get medical attention.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation : May be harmful if inhaled. May cause respiratory irritation.

Symptoms/effects after skin contact : Toxic in contact with skin. Causes skin irritation.

Symptoms/effects after eye contact : Causes serious eye irritation.

Symptoms/effects after ingestion : Harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3. Methods and material for containment and cleaning up

For containment : Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Normal measures for preventive fire protection.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store at room temperature away from light and moisture.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Personal protective equipment : Gloves. Safety glasses. Protective clothing. Respiratory protection of the dependent type.



Materials for protective clothing : Wear suitable protective clothing and gloves.

Hand protection : Protective gloves.

Eye protection : Chemical goggles or face shield with safety glasses.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : When appropriate, use NIOSH/CEN approved respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Clear, Liquid

Molecular mass : 136.2 g/mol (Labeled)

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Color	: Light yellow
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: -17 - -13 °C (1 - 9 °F) - lit
Freezing point	: No data available
Boiling point	: 113 - 114 °C (235 - 237 °F) at 15 hPa (11 mmHg) - lit
Flash point	: 101 °C (214 °F) - closed cup
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: 0.09 hPa (0.07 mmHg) at 20 °C (68 °F)
Relative vapor density at 20 °C	: 4.46 - (Air = 1.0)
Relative density	: No data available
Specific gravity / density	: 1.093 g/cm ³ at 25 °C (77 °F)
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable if stored under recommended conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong oxidizing agents, Strong acids.

10.6. Hazardous decomposition products

Formed under fire conditions: Carbon oxides, Nitrogen oxides (NOx).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Dermal: Toxic in contact with skin.

QUINOLINE (D7, 98%) (34071-94-8)	
LD50 oral rat	262 mg/kg
LD50 dermal rabbit	1377 mg/kg
ATE CLP (oral)	262.000 mg/kg body weight
ATE CLP (dermal)	300.000 mg/kg body weight

Skin corrosion/irritation	: Causes skin irritation. Skin - Rabbit - Skin irritation - 24 h
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Suspected of causing genetic defects (in contact with skin, if inhaled, if swallowed).
Carcinogenicity	: Possible human carcinogen

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Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: Toxic in contact with skin. Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects.

QUINOLINE (D7, 98%) (34071-94-8)

EC50 Daphnia 1	34.5 mg/l Daphnia magna (Water flea) - 48 h
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12.2. Persistence and degradability

QUINOLINE (D7, 98%) (34071-94-8)

Biodegradation	< 6 % Exposure time 14 d - Not readily biodegradable
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12.3. Bioaccumulative potential

QUINOLINE (D7, 98%) (34071-94-8)

Bioconcentration factor (BCF REACH)	8 Pimemphales promelas (fathead minnow) 6 d - 163 ug/l
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No.(DOT)	: 2656
DOT NA no.	UN2656

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Quinoline
Class (DOT)	: 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132
Hazard labels (DOT)	: 6.1 - Poison



Packing group (DOT) : III - Minor Danger

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DOT Special Provisions (49 CFR 172.102)	: IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 153
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT RQ	: 5000 lbs
Marine pollutant	: No



14.3. Additional information

Emergency Response Guide (ERG) Number	: 154
Other information	: No supplementary information available.

Overland transport

Packing group (ADR)	: III
Class (ADR)	: 6.1 - Toxic substances
Hazard identification number (Kemler No.)	: 60
Classification code (ADR)	: T1
Hazard labels (ADR)	: 6.1 - Toxic substances



Orange plates	: 
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Tunnel restriction code (ADR)	: E
Limited quantities (ADR)	: 5I
EAC	: 2X
Excepted quantities (ADR)	: E1

Transport by sea

DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other	: 12 - Keep as cool as reasonably practicable, 25 - Shade from radiant heat
MFAG-No	: 154

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 220 L
Civil Aeronautics Law	: Toxic and infectious substances/Toxic substances

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14.4. Environmental hazards

Dangerous for the environment

:



Other information

: No supplementary information available.

14.5. Special precautions for user

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

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

QUINOLINE (D7, 98%) (34071-94-8)	
SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313

15.2. International regulations

CANADA

No additional information available

15.2.1. National regulations

No additional information available

15.3. US State regulations

QUINOLINE (D7, 98%)(34071-94-8)	
U.S. - California - Proposition 65 - Carcinogens List	Yes
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Other information

: This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of R-, H- and EUH-phrases:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Carc. 1A	Carcinogenicity Category 1A
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Muta. 2	Germ cell mutagenicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
H302	Harmful if swallowed
H311	Toxic in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H341	Suspected of causing genetic defects

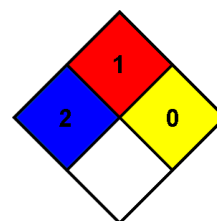
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H350	May cause cancer
H411	Toxic to aquatic life with long lasting effects
R22	Harmful if swallowed
R24	Toxic in contact with skin
R36/38	Irritating to eyes and skin
R45	May cause cancer
R49	May cause cancer by inhalation
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R68	Possible risk of irreversible effects
N	Dangerous for the environment
T	Toxic
Xi	Irritant
Xn	Harmful

- NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
- NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

- Health : 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability : 1 Slight Hazard
- Physical : 0 Minimal Hazard

CIL Substance SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product