



# CARBAZOLE (RING-D8, 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: 15/02/2011  
DLM-2134

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Supersedes: 17/10/2014

Version: 4.0

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

#### 1.1. Product identifier

Product form : Substance  
Substance name : CARBAZOLE (RING-D8, 98%)  
EC No : 201-696-0 (Unlabeled)  
CAS No : 38537-24-5  
Product code : DLM-2134  
Formula : C6D4NHC6D4

#### 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](mailto:cilsales@isotope.com) [www.isotope.com](http://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]

Carc. 2 H351  
Aquatic Acute 1 H400  
Aquatic Chronic 4 H413

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

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

Carc.Cat.3; R40  
N; R50/53

Full text of R-phrases: see section 16

##### GHS-US classification

Carc. 2 H351  
Aquatic Acute 1 H400  
Aquatic Chronic 4 H413

Full text of H statements : see section 16

##### Adverse physicochemical, human health and environmental effects

No additional information available

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### 2.2. Label elements

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

Hazard pictograms (CLP) :



Signal word (CLP) :

Warning

Hazard statements (CLP) :

H351 - Suspected of causing cancer (if inhaled, if swallowed, in contact with skin)  
H400 - Very toxic to aquatic life  
H413 - May cause long lasting harmful effects to aquatic life

Precautionary statements (CLP) :

P273 - Avoid release to the environment  
P280 - Wear protective clothing, protective gloves  
P308+P313 - IF exposed or concerned: Get medical advice/attention  
P391 - Collect spillage  
P405 - Store locked up  
P501 - Dispose of contents/container to Comply with applicable regulations

#### GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Warning

Hazard statements (GHS-US) :

H351 - Suspected of causing cancer (Dermal, Inhalation, oral)  
H400 - Very toxic to aquatic life  
H413 - May cause long lasting harmful effects to aquatic life

Precautionary statements (GHS-US) :

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P273 - Avoid release to the environment  
P280 - Wear eye protection, face protection, protective clothing, protective gloves  
P308+P313 - If exposed or concerned: Get medical advice/attention  
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
CARBAZOLE (RING-D8, 98%)	(CAS No) 38537-24-5 (EC No) 201-696-0 (Unlabeled)	100	Carc.Cat.3; R40 N; R50/53
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
CARBAZOLE (RING-D8, 98%)	(CAS No) 38537-24-5 (EC No) 201-696-0 (Unlabeled)	100	Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 4, H413

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

Name	Product identifier	%	GHS-US classification
CARBAZOLE (RING-D8, 98%) (Main constituent)	(CAS No) 38537-24-5	100	Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 4, H413

Full text of H-statements: see section 16

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### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Suspected of causing cancer (if inhaled, in contact with skin, if swallowed).
First-aid measures after inhalation	: If you feel unwell, seek medical advice. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
First-aid measures after skin contact	: Wash with plenty of soap and water. Get immediate medical advice/attention.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Get medical advice/attention if you feel unwell. Rinse mouth. Do not induce vomiting.

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

Symptoms/injuries after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/injuries after skin contact	: May be harmful in contact with skin. May cause skin irritation.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: May be harmful if swallowed.

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

No additional information available

## SECTION 5: Fire-fighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray, dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>).

### 5.2. Special hazards arising from the substance or mixture

Reactivity : Not available.

### 5.3. Advice for firefighters

Firefighting instructions	: Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Wear self-contained breathing apparatus, rubber boots and thick rubber gloves.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : Use personal protective equipment as required. Avoid dust formation. Avoid breathing vapours, mist, gas. Ensure adequate air ventilation.

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Do not allow product to spread into the environment.

### 6.3. Methods and material for containment and cleaning up

For containment : Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed	: Provide for appropriate exhaust ventilation at places of vapours accumulation. Avoid all eye and skin contact and do not breathe vapour and mist.
Precautions for safe handling	: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Store in a well-ventilated place. Keep container tightly closed.
Storage conditions	: Store at room temperature away from light and moisture.

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### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Additional information : Contains no substances with occupational exposure limits

### 8.2. Exposure controls

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



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

Hand protection : Wear suitable protective clothing and gloves.

Eye protection : Wear closed safety glasses.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Wear respiratory protection.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder.
Molecular mass	: 175.26 g/mol (Labeled)
Colour	: Beige.
Odour	: No data available.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 243 - 246 °C (469 - 475 °F)
Freezing point	: No data available
Boiling point	: 355 °C (671 °F)
Flash point	: 220 °C (428.0 °F) - closed cup
Auto-ignition temperature	: > 600 °C (> 1,112 °F) at 1,013 hPa (760 mmHg)
Decomposition temperature	: No data available
Flammability (solid, gas)	: The product is not flammable
Vapour pressure	: 533 hPa (400 mmHg) at 323 °C (613 °F)
Relative vapour density at 20 °C	: No data available
Relative density	: 1.1 g/cm <sup>3</sup> at 18 °C (64 °F)
Solubility	: Water: 0.00091 g/l at 25 °C (77 °F)
Log Pow	: 3.72 at 22 °C (72 °F)
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Not available.

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### 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

Not available.

### 10.5. Incompatible materials

Oxidizing agent.

### 10.6. Hazardous decomposition products

Carbon oxides (CO, CO<sub>2</sub>). Nitrogen oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

CARBAZOLE (RING-D8, 98%) (38537-24-5)	
LD50, oral, rat	> 16,000 mg/kg ((OECD 401 method))
Skin corrosion/irritation	: Not classified Skin rabbit No skin irritation (OECD 404 method)
Serious eye damage/irritation	: Not classified Eyes rabbit No eye irritation
Respiratory or skin sensitisation	: Not available No data available
Germ cell mutagenicity	: Not available
Carcinogenicity	: Limited evidence of carcinogenicity in animal studies. Carcinogenicity. mouse. male. female. Oral. Carcinogen
Reproductive toxicity	: Not available
STOT-single exposure	: Not classified Inhalation - May cause respiratory irritation.
STOT-repeated exposure	: Not classified No data available
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: 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.
IARC group	: 2B
Symptoms/injuries after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/injuries after skin contact	: May be harmful in contact with skin. May cause skin irritation.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: May be harmful if swallowed.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : Very toxic to aquatic life. May cause long lasting harmful effects to aquatic life.

CARBAZOLE (RING-D8, 98%) (38537-24-5)	
LC50 fish 1	> 0.93 mg/l Pimephales promelas (fathead minnow) - 96 h;Remarks: No toxicity at the limit of solubility
EC50 Daphnia 1	2.3 - 4.9 mg/l Daphnia magna (Water flea) - 48 h;Remarks: No toxicity at the limit of solubility
ErC50 (other aquatic plants)	2.3 - 4.9 mg/l Daphnia magna (Water flea) - 48 h; Remarks: No toxicity a the limit of solubility.

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NOEC chronic algae	> 0.4 mg/l growth inhibition <i>Scenedesmus acuminatus</i> - 96 h; Remarks: No toxicity at the limit of solubility.
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### 12.2. Persistence and degradability

#### CARBAZOLE (RING-D8, 98%) (38537-24-5)

Persistence and degradability	Not available. May cause long-term adverse effects in the environment.
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### 12.3. Bioaccumulative potential

#### CARBAZOLE (RING-D8, 98%) (38537-24-5)

BCF fish 1	0.05 mg/l <i>Cyprinus carpio</i> (Carp) - 42 d
BCF fish 2	0.005 mg/l <i>Cyprinus carpio</i> (Carp) - 42 d; Bioconcentration factor (BCF): 241
Bioconcentration factor (BCF REACH)	200
Log Pow	3.72 at 22 °C (72 °F)

### 12.4. Mobility in soil

#### CARBAZOLE (RING-D8, 98%) (38537-24-5)

Ecology - soil	Not available.
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### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

Other adverse effects : Avoid release to the environment. Disposal must be done according to official regulations. Very toxic to aquatic life with long lasting effects.

## 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.
Product/Packaging disposal recommendations:	: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Ecology - waste materials	: Dispose of as unused product.

## SECTION 14: Transport information

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

### 14.1. UN number

UN-No.(DOT)	: 3077
DOT NA no.	UN3077

### 14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Environmentally hazardous substances, solid, n.o.s.
Class (DOT)	: 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140
Hazard labels (DOT)	: 9 - Class 9 (Miscellaneous dangerous materials)



DOT Symbols	: G - Identifies PSN requiring a technical name
Packing group (DOT)	: III - Minor Danger

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- DOT Special Provisions (49 CFR 172.102) : 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies.  
146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination.  
335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s." UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leakproof when used as bulk packaging.  
A112 - Notwithstanding the quantity limits shown in Column (9A) and (9B) for this entry, the following IBCs are authorized for transportation aboard passenger and cargo-only aircraft. Each IBC may not exceed a maximum net quantity of 1,000 kg:  
a. Metal: 11A, 11B, 11N, 21A, 21B and 21N  
b. Rigid plastics: 11H1, 11H2, 21H1 and 21H2  
c. Composite with plastic inner receptacle: 11HZ1, 11HZ2, 21HZ1 and 21HZ2  
d. Fiberboard: 11G  
e. Wooden: 11C, 11D and 11F (with inner liners)  
f. Flexible: 13H2, 13H3, 13H4, 13H5, 13L2, 13L3, 13L4, 13M1 and 13M2 (flexible IBCs must be sift-proof and water resistant or must be fitted with a sift-proof and water resistant liner).  
B54 - Open-top, sift-proof rail cars are also authorized.  
IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).  
IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner.  
N20 - A 5M1 multi-wall paper bag is authorized if transported in a closed transport vehicle.  
T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2)  
TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.
- DOT Packaging Exceptions (49 CFR 173.xxx) : 155  
DOT Packaging Non Bulk (49 CFR 173.xxx) : 213  
DOT Packaging Bulk (49 CFR 173.xxx) : 240  
Marine pollutant : No.



### 14.3. Additional information

Other information : No supplementary information available.

#### Overland transport


- Packing group (ADR) : III  
Class (ADR) : 9 - Miscellaneous dangerous substances and articles  
Hazard identification number (Kemler No.) : 90  
Classification code (ADR) : M7  
Danger labels (ADR) : 9 - Miscellaneous dangerous substances and articles



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Orange plates : 

Tunnel restriction code (ADR) : E  
Limited quantities (ADR) : 5kg  
EAC code : Z2  
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.  
MFAG-No : 171

### Air transport

DOT Quantity Limitations Passenger aircraft/rail : No limit  
(49 CFR 173.27)  
DOT Quantity Limitations Cargo aircraft only (49 : No limit  
CFR 175.75)  
Civil Aeronautics Law : Miscellaneous dangerous substances & articles (Hazardous materials notice Appended Table 1 Article 194 of the Enforcement Regulations)

### 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

CARBAZOLE (RING-D8, 98%) (38537-24-5)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313

### 15.2. International regulations

#### CANADA

CARBAZOLE (RING-D8, 98%) (38537-24-5)
Listed on the Canadian DSL (Domestic Substances List)

#### 15.2.1. National regulations

No additional information available

### 15.3. US State regulations

CARBAZOLE (RING-D8, 98%)(38537-24-5)	
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	No



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CARBAZOLE (RING-D8, 98%)(38537-24-5)	
Toxicity - Male	
State or local regulations	U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) 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.

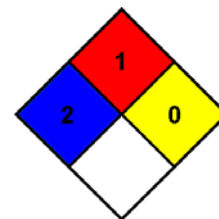
Full text of R-, H- and EUH-statements:

Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 4	Hazardous to the aquatic environment — Chronic Hazard, Category 4
Carc. 2	Carcinogenicity, Category 2
H351	Suspected of causing cancer
H400	Very toxic to aquatic life
H413	May cause long lasting harmful effects to aquatic life
R40	Limited evidence of a carcinogenic effect
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
N	Dangerous for the environment

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.



### HMIS III Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 0 Minimal Hazard

Physical : 0 Minimal Hazard

CIL Multi-Solvent Mixture 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*