



# CARBON (AMORPHOUS) (13C, 99%) 95% PURE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Issue date: 5/2/2011 Revision date: 2/24/2023 Supersedes: 8/17/2022 Version: 5.0

### SECTION 1: Identification

#### 1.1. Identification

Product form : Substance  
Substance name : CARBON (AMORPHOUS) (13C, 99%) 95% PURE  
CAS-No. : 7440-44-0  
Product code : CLM-402  
Formula : \*C  
Synonyms : Charcoal activated

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Cambridge Isotope Laboratories, Inc.  
50 Frontage Rd  
01810  
ANDOVER, MA, 01810  
USA  
T 1-800-322-1174  
[cilsales@isotope.com](mailto:cilsales@isotope.com) - [www.isotope.com](http://www.isotope.com)

#### 1.4. Emergency telephone number

Emergency number : 1-703-741-5970  
Chemtrec 1-800-424-9300 24 hours

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Serious eye damage/eye irritation Category 2B	H320	Causes eye irritation
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning  
Hazard statements (GHS US) : H320 - Causes eye irritation  
H335 - May cause respiratory irritation  
Precautionary statements (GHS US) : P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P271 - Use only outdoors or in a well-ventilated area.  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

# CARBON (AMORPHOUS) (13C, 99%) 95% PURE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P312 - Call a poison center or doctor if you feel unwell.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P405 - Store locked up.  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Name	Product identifier	%	GHS US classification
CARBON (AMORPHOUS) (13C, 99%) 95% PURE (Main constituent)	CAS-No.: 7440-44-0	100	Eye Irrit. 2B, H320 STOT SE 3, H335

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

### 3.2. Mixtures

Not applicable

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : Move out of dangerous area. Consult a physician and show this safety data sheet.  
First-aid measures after inhalation : If breathed in, move person into fresh air. If not breathing, give artificial respiration.  
First-aid measures after skin contact : Wash off with soap and plenty of water.  
First-aid measures after eye contact : Flush eyes with water as a precaution.  
First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Rinse mouth with water.

### 4.2. Most important symptoms and effects (acute and delayed)

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.  
Symptoms/effects after inhalation : May be harmful if inhaled. May cause respiratory tract irritation.  
Symptoms/effects after skin contact : May be harmful if absorbed through skin. May cause skin irritation.  
Symptoms/effects after eye contact : Causes eye irritation.  
Symptoms/effects after ingestion : May be harmful if swallowed.

### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

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

# CARBON (AMORPHOUS) (13C, 99%) 95% PURE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 5.2. Specific hazards arising from the chemical

No additional information available

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Not flammable or combustible. Wear self contained breathing apparatus for fire fighting if necessary.  
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 : Use personal protective equipment. Avoid dust formation. Avoid breathing dust, vapors, mist, or gas. Ensure adequate ventilation.

#### 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. Discharge into the environment must be avoided.

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

For containment : Sweep up and shovel. 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

Additional hazards when processed : Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.  
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

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

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### CARBON (AMORPHOUS) (13C, 99%) 95% PURE (7440-44-0)

#### USA - ACGIH - Occupational Exposure Limits

ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
-------------------------	--

# CARBON (AMORPHOUS) (13C, 99%) 95% PURE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 8.2. Appropriate engineering controls

No additional information available

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.

#### Hand protection:

Wear suitable protective clothing and gloves

#### Eye protection:

Wear safety glasses with side shields (or goggles) and a face shield.

#### Skin and body protection:

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

#### Respiratory protection:

When appropriate, use NIOSH/CEN approved respirator.

#### Personal protective equipment symbol(s):



## SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Appearance	: Granules.
Color	: Black
Odor	: Odourless
Odor threshold	: No data available
pH	: No data available
Melting point	: 3550 °C (6,422 °F) - lit.
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: 1 hPa (1 mmHg) at 25 °C (77 °F)
Relative vapor density at 20°C	: No data available
Relative density	: 1.8 – 2.1 g/cm <sup>3</sup>
Molecular mass	: 13 g/mol (Labeled)
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

# CARBON (AMORPHOUS) (13C, 99%) 95% PURE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 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.

### 10.6. Hazardous decomposition products

formed under fire conditions: Carbon oxides.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

#### CARBON (AMORPHOUS) (13C, 99%) 95% PURE (7440-44-0)

Additional data	LD50 Intravenous - Mousse - 440 mg/kg
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
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.
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory tract irritation.
Symptoms/effects after skin contact	: May be harmful if absorbed through skin. May cause skin irritation.
Symptoms/effects after eye contact	: Causes eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.

# CARBON (AMORPHOUS) (13C, 99%) 95% PURE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 12: Ecological information

#### 12.1. Toxicity

No additional information available

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Disposal 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 DOT / TDG / IMDG / IATA

#### 14.1. UN number

DOT NA No	: UN1362
UN-No. (TDG)	: UN1362
UN-No. (IMDG)	: 1362
UN-No. (IATA)	: 1362

#### 14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Carbon, activated
Proper Shipping Name (TDG)	: CARBON, ACTIVATED
Proper Shipping Name (IMDG)	: CARBON, ACTIVATED
Proper Shipping Name (IATA)	: Carbon, activated

#### 14.3. Transport hazard class(es)

##### DOT

Transport hazard class(es) (DOT)	: 4.2
Hazard labels (DOT)	: 4.2



# CARBON (AMORPHOUS) (13C, 99%) 95% PURE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### TDG

Transport hazard class(es) (TDG) : 4.2

Hazard labels (TDG) : 4.2



### IMDG

Transport hazard class(es) (IMDG) : 4.2

Hazard labels (IMDG) : 4.2



### IATA

Transport hazard class(es) (IATA) : 4.2

Hazard labels (IATA) : 4.2



## 14.4. Packing group

Packing group (DOT) : III

Packing group (TDG) : III

Packing group (IMDG) : III

Packing group (IATA) : III

## 14.5. Environmental hazards

Other information : No supplementary information available.

## 14.6. Special precautions for user

### DOT

UN-No.(DOT) : UN1362

# CARBON (AMORPHOUS) (13C, 99%) 95% PURE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

DOT Special Provisions (49 CFR 172.102)	: 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. 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. W31 - Non-bulk packagings must be hermetically sealed.
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 213
DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 0.5 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 0.5 kg
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
<b>TDG</b>	
UN-No. (TDG)	: UN1362
Explosive Limit and Limited Quantity Index	: 0
Excepted quantities (TDG)	: E1
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index	: 0.5 kg
Emergency Response Guide (ERG) Number	: 133
<b>IMDG</b>	
Special provision (IMDG)	: 223, 925
Limited quantities (IMDG)	: 0
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P002
Packing provisions (IMDG)	: PP11, PP31
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B3
Tank instructions (IMDG)	: T1
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-J - SPILLAGE SCHEDULE Juliet - WETTED EXPLOSIVES AND CERTAIN SELF-HEATING SUBSTANCES
Stowage category (IMDG)	: A
Stowage and handling (IMDG)	: SW1, H2
Flash point (IMDG)	: '
Properties and observations (IMDG)	: Activated porous black carbon materials not including charcoal (see UN 1361). May be in form of powder, granules, pellets, fibres or felts. If chemically activated, may self-heat, and may ignite spontaneously in air.
MFAG-No	: 133



# CARBON (AMORPHOUS) (13C, 99%) 95% PURE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### IATA

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: 472
PCA max net quantity (IATA)	: 0.5kg
CAO packing instructions (IATA)	: 472
CAO max net quantity (IATA)	: 0.5kg
Special provision (IATA)	: A3
ERG code (IATA)	: 4L

### 14.7. 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

#### CARBON (AMORPHOUS) (13C, 99%) 95% PURE (7440-44-0)

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
--	---

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
CARBON (AMORPHOUS) (13C, 99%) 95% PURE	7440-44-0	Not present	-	

### 15.2. International regulations

#### CANADA

#### CARBON (AMORPHOUS) (13C, 99%) 95% PURE (7440-44-0)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

#### EU-Regulations

No additional information available

#### National regulations

#### CARBON (AMORPHOUS) (13C, 99%) 95% PURE (7440-44-0)

CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

### 15.3. US State regulations

No additional information available

## SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 02/24/2023

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.

# CARBON (AMORPHOUS) (13C, 99%) 95% PURE

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

---

Full text of H-phrases	
H320	Causes eye irritation
H335	May cause respiratory irritation

Safety Data Sheet (SDS), USA

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.