

# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 02.14.2018

Page 1 of 9

**Benzene,**

## SECTION 1: Identification

### Product identifier

**Product name:** Benzene,

**Product code:** S25658A

### Recommended use of the product and restriction on use

**Relevant identified uses:** Not determined or not applicable.

**Uses advised against:** Not determined or not applicable.

**Reasons why uses advised against:** Not determined or not applicable.

### Manufacturer or supplier details

**Manufacturer:**

**Supplier:**

AquaPhoenix Scientific

860 Gitts Run Road

Hanover

PA 17331

(717) 632-1291

Fisher Science Education

6771 Silver Crest Road

Nazareth

PA 18064

800 955-1177

### Emergency telephone number:

**United States**

Emergency Telephone No.: 800-255-3924

## SECTION 2: Hazard(s) identification

### GHS classification:

Flammable liquids, category 2

Aspiration hazard, category 1

Eye irritation, category 2A

Skin irritation, category 2

Specific target organ toxicity - repeated exposure, category 1

Carcinogenicity, category 1A

Germ cell mutagenicity, category 1B

### Label elements

#### Hazard pictograms:



**Signal word:** Danger

### Hazard statements:

H225 Highly flammable liquid and vapor

H304 May be fatal if swallowed and enters airways

H319 Causes serious eye irritation

H315 Causes skin irritation

H372 Causes damage to organs through prolonged or repeated exposure

H350 May cause cancer

H340 May cause genetic defects

# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 02.14.2018

Page 2 of 9

## Benzene,

### Precautionary statements:

- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking
- P233 Keep container tightly closed
- P240 Ground/bond container and receiving equipment
- P241 Use explosion-proof electrical/ventilating/light/equipment
- P242 Use only non-sparking tools
- P243 Take precautionary measures against static discharge
- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P264 Wash skin thoroughly after handling
- P260 Do not breathe dust/fume/gas/mist/vapors/spray
- P270 Do not eat, drink or smoke when using this product
- P201 Obtain special instructions before use
- P202 Do not handle until all safety precautions have been read and understood
- P303+P361+P353 If on skin (or hair): Immediately remove/take off all contaminated clothing. Rinse skin with water/shower
- P370+P378 In case of fire: Use agents recommended in section 5 for extinction
- P331 Do not induce vomiting
- P301+P310 If swallowed: Immediately call a poison center or doctor/physician
- P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
- P321 Specific treatment (see supplemental first aid instructions on this label).
- P362 Take off contaminated clothing and wash before reuse
- P302+P352 If on skin: Wash with soap and water
- P332+P313 If skin irritation occurs: Get medical advice/attention
- P308+P313 If exposed or concerned: Get medical advice/attention
- P403+P235 Store in a well ventilated place. Keep cool
- P405 Store locked up
- P501 Dispose of contents and container as instructed in Section 13

**Hazards not otherwise classified:** None

## SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 71-43-2	Benzene	100

**Additional Information:** None

## SECTION 4: First aid measures

### Description of first aid measures

#### General notes:

Not determined or not applicable.

#### After inhalation:

Loosen clothing as necessary and position individual in a comfortable position

Maintain an unobstructed airway

#### After skin contact:

Rinse affected area with soap and water

If symptoms develop or persist, seek medical attention

Wash affected area with soap and water

Seek medical attention if symptoms develop or persist

# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 02.14.2018

Page 3 of 9

## Benzene,

### After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes  
If symptoms develop or persist, seek medical attention  
Remove contact lens(es) if able to do so during rinsing  
Seek medical attention if irritation persists or if concerned

### After swallowing:

Rinse mouth thoroughly  
Seek medical attention if irritation, discomfort, or vomiting persists

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

#### Acute symptoms and effects:

Not determined or not applicable.

#### Delayed symptoms and effects:

Not determined or not applicable.

### Immediate medical attention and special treatment

#### Specific treatment:

Not determined or not applicable.

#### Notes for the doctor:

Not determined or not applicable.

## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing media:

Use dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam

#### Unsuitable extinguishing media:

Not determined or not applicable.

### Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors  
Vapors can flow to distant ignition sources and flashback  
Liquid is volatile and may generate an explosive atmosphere

### Special protective equipment for firefighters:

Wear protective eye wear, gloves and clothing  
Refer to Section 8

### Special precautions:

Avoid inhaling gases, fumes, dust, mist, vapor and aerosols  
Avoid contact with skin, eyes and clothing

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation  
Ensure air handling systems are operational  
Beware of vapors accumulating to form explosive concentrations  
Vapors can accumulate in low areas

### Environmental precautions:

Should not be released into the environment  
Prevent from reaching drains, sewer or waterway

### Methods and material for containment and cleaning up:

Wear protective eye wear, gloves and clothing

# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 02.14.2018

Page 4 of 9

## Benzene,

Use spark-proof tools and explosion-proof equipment

### Reference to other sections:

Not determined or not applicable.

## SECTION 7: Handling and storage

### Precautions for safe handling:

Do not eat, drink, smoke or use personal products when handling chemical substances.

Avoid breathing mist or vapor.

Use only non-sparking tools.

Take precautionary measures against electrostatic discharges.

### Conditions for safe storage, including any incompatibilities:

Store in a cool, well-ventilated area.

Keep container tightly sealed.

Keep away from all ignition sources: open flames, hot surfaces, direct sunlight, spark sources.

Store locked up.

Use appropriate containment to avoid environmental contamination.

Protect from freezing and physical damage.

## SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

### Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
ACGIH	Benzene	71-43-2	ACGIH TLV TWA 0.5 ppm
	Benzene	71-43-2	ACGIH TLV STEL 2.5 ppm
NIOSH	Benzene	71-43-2	NIOSH REL Ca TWA 0.1 ppm
	Benzene	71-43-2	NIOSH REL ST 1 ppm
United States (OSHA)	Benzene	71-43-2	OSHA PEL [1910.1028] TWA 1 ppm
	Benzene	71-43-2	OSHA PEL [1910.1028] ST 5 ppm

### Biological limit values:

No biological exposure limits noted for the ingredient(s).

### Information on monitoring procedures:

Not determined or not applicable.

### Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

Use explosion-proof ventilation equipment.

### Personal protection equipment

#### Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

#### Skin and body protection:

Select glove material impermeable and resistant to the substance.

#### Respiratory protection:

When necessary, use NIOSH-approved breathing equipment.

### General hygienic measures:

Wash hands before breaks and at the end of work.

# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 02.14.2018

Page 5 of 9

**Benzene,**

Avoid contact with skin, eyes and clothing.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance</b>	Clear, colorless liquid
<b>Odor</b>	Sweetish - aromatic odor
<b>Odor threshold</b>	97 ppm; 310 mg/m <sup>3</sup>
<b>pH</b>	Not determined or not available.
<b>Melting point/freezing point</b>	5.5C
<b>Initial boiling point/range</b>	80.1C
<b>Flash point (closed cup)</b>	-11C
<b>Evaporation rate</b>	Not determined or not available.
<b>Flammability (solid, gas)</b>	Not determined or not available.
<b>Upper flammability/explosive limit</b>	7.1%
<b>Lower flammability/explosive limit</b>	1.3%
<b>Vapor pressure</b>	75 mm Hg @ 20 C
<b>Vapor density</b>	2.8
<b>Density</b>	0.8765 g/cm <sup>3</sup> at 20 °C
<b>Relative density</b>	0.8765
<b>Solubilities</b>	0.180 g/100mL @ 20C
<b>Partition coefficient (n-octanol/water)</b>	Log Kow= 1.83
<b>Auto/Self-ignition temperature</b>	498C
<b>Decomposition temperature</b>	Not determined or not available.
<b>Dynamic viscosity</b>	Not determined or not available.
<b>Kinematic viscosity</b>	Not determined or not available.
<b>Explosive properties</b>	Not determined or not available.
<b>Oxidizing properties</b>	Not determined or not available.

### Other information

## SECTION 10: Stability and reactivity

### Reactivity:

Does not react under normal conditions of use and storage.

### Chemical stability:

Stable under normal conditions of use and storage.

### Possibility of hazardous reactions:

None under normal conditions of use and storage.

### Conditions to avoid:

None known.

### Incompatible materials:

None known.

### Hazardous decomposition products:

None known.

# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 02.14.2018

Page 6 of 9

**Benzene,**

## SECTION 11: Toxicological information

### Acute toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Skin corrosion/irritation

**Assessment:** Causes skin irritation

**Product data:** No data available.

**Substance data:**

Name	Result
Benzene	Irritating to the skin.

### Serious eye damage/irritation

**Assessment:** Causes serious eye irritation

**Product data:** No data available.

**Substance data:**

Name	Result
Benzene	Irritating effect on the eyes.

### Respiratory or skin sensitization

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Carcinogenicity

**Assessment:** May cause cancer

**Product data:** No data available.

**Substance data:**

Name	Species	Result
Benzene	Benzene	Confirmed human carcinogen.

### International Agency for Research on Cancer (IARC):

Name	Classification
Benzene	Group 1 - Carcinogenic to humans

### National Toxicology Program (NTP):

Name	Classification
Benzene	Known to be human carcinogens

### Germ cell mutagenicity

**Assessment:** May cause genetic defects

**Product data:** No data available.

**Substance data:**

Name	Result
Benzene	May cause genetic defects.

### Reproductive toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 02.14.2018

Page 7 of 9

## Benzene,

**Substance data:** No data available.

### Specific target organ toxicity (single exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:**

Name	Result
Benzene	Causes damage to the organs through prolonged or repeated exposure.

### Specific target organ toxicity (repeated exposure)

**Assessment:** Causes damage to organs through prolonged or repeated exposure

**Product data:** No data available.

**Substance data:** No data available.

### Aspiration toxicity

**Assessment:** May be fatal if swallowed and enters airways

**Product data:** No data available.

**Substance data:** No data available.

**Information on likely routes of exposure:** No data available.

**Symptoms related to the physical, chemical and toxicological characteristics:** No data available.

**Other information:** No data available.

## SECTION 12: Ecological information

### Acute (short-term) toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Chronic (long-term) toxicity

**Product data:** No data available.

**Substance data:** No data available.

### Persistence and degradability

**Product data:** No data available.

**Substance data:** No data available.

### Bioaccumulative potential

**Product data:** No data available.

**Substance data:** No data available.

### Mobility in soil

**Product data:** No data available.

**Substance data:** No data available.

**Other adverse effects:** No data available.

## SECTION 13: Disposal considerations

### Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11)

## SECTION 14: Transport information

### United States Transportation of dangerous goods (49 CFR DOT)

UN number	1114
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# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200


Initial preparation date: 02.14.2018

Page 8 of 9


**Benzene,**

<b>UN proper shipping name</b>	Benzene
<b>UN transport hazard class(es)</b>	3 
<b>Packing group</b>	II
<b>Environmental hazards</b>	None
<b>Special precautions for user</b>	None

**International Maritime Dangerous Goods (IMDG)**

<b>UN number</b>	1114
<b>UN proper shipping name</b>	Benzene
<b>UN transport hazard class(es)</b>	3 
<b>Packing group</b>	II
<b>Environmental hazards</b>	None
<b>Special precautions for user</b>	None

**International Air Transport Association Dangerous Goods Regulations (IATA-DGR)**

<b>UN number</b>	1114
<b>UN proper shipping name</b>	Benzene
<b>UN transport hazard class(es)</b>	3 
<b>Packing group</b>	II
<b>Environmental hazards</b>	None
<b>Special precautions for user</b>	None

**SECTION 15: Regulatory information**

**United States regulations**

**Inventory listing (TSCA):**

71-43-2	Benzene	Listed
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**Significant New Use Rule (TSCA Section 5):** Not determined.

**Export notification under TSCA Section 12(b):** Not determined.

**SARA Section 311/312 hazards:**

Acute	Chronic	Fire	Pressure	Reactive
Yes	Yes	Yes	No	No

**SARA Section 302 extremely hazardous substances:** Not determined.

**SARA Section 313 toxic chemicals:**

71-43-2	Benzene	Not Listed
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**CERCLA:**

71-43-2	Benzene	Listed	10
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**RCRA:**

71-43-2	Benzene	Listed	U019
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# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 02.14.2018

Page 9 of 9

**Benzene,**

**Section 112(r) of the Clean Air Act (CAA):** Not determined.

**Massachusetts Right to Know:**

71-43-2	Benzene	Listed
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**New Jersey Right to Know:**

71-43-2	Benzene	Not Listed
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**New York Right to Know:**

71-43-2	Benzene	Not Listed
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**Pennsylvania Right to Know:**

71-43-2	Benzene	Listed
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**California Proposition 65:**

WARNING: This product contains a chemical known to the State of California to cause cancer.

71-43-2	Benzene
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WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

71-43-2	Benzene
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## SECTION 16: Other information

**Abbreviations and Acronyms:** None

**Disclaimer:**

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

**NFPA:** 2-2-0

**HMIS:** 2-2-0

**Initial preparation date:** 02.14.2018

**End of Safety Data Sheet**