

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 02.14.2018

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Benzene,

SECTION 1: Identification

Product identifier

Product name: Benzene,

Product code: S25658

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

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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

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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

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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.

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Avoid contact with skin, eyes and clothing.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

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

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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.

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

International Maritime Dangerous Goods (IMDG)

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

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

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

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End of Safety Data Sheet