Shanghai Aladdin Biochemical Technology Co., Ltd.
No. 809, Chuhua Branch Road, Fengxian District, Shanghai

SAFETY DATA SHEET

Version: v1
Revision Date: 2024-01-22
Print Date: 2024-01-29

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

1.1 Product identifiers

Product name	: Benzene
Product Number	: B116189
Brand	: aladdin
CAS-No.	: 71-43-2

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

Identified uses	: Laboratory chemicals,Manufacture of substances.

1.3 Details of the supplier of the safety data sheet

Company	: Shanghai Aladdin Biochemical Tech Co.,Ltd
Address	: 36 Xinjinqiao Road, Shanghai
Telephone	: 400-620-6333
Fax	: no data available

1.4 Emergency telephone number

Emergency Phone	: 0532-83889090

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Flammable liquid (category 2), H225

Skin corrosion/irritation (category 2), H315

Serious eye damage/eye irritation (category 2A), H319

Germ cell mutagenicity (category 1B), H340

Carcinogenicity (Category 1A), H350

Specific target organ toxicity (repeated exposure) (category 1), blood, H372

Aspiration hazard (category 1), H304

Acute (short-term) aquatic hazard (category 2), H401

Long-term aquatic hazard (category 3), H412

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)

H225	Highly Flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H319	Causes serious eye irritation
H340	May cause genetic defects
H350	May cause cancer
H372	Causes damage to organs through prolonged or repeated exposure
H401	Toxic to aquatic life
H412	Harmful to aquatic life with long lasting effects

Precautionary statement(s)

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking.
P202	Do not handle until all safety precautions have been read and understood.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting/.../] equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands [and ...] thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P331	Do NOT induce vomiting.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/...
P303+P361+P353	IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower].
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.
P332+P313	IF SKIN irritation occurs: Get medical advice/attention.
P337+P313	IF eye irritation persists: Get medical advice/attention.
P370+P378	In case of fire: Use ... to extinguish.
P405	Store locked up.
P403+P235	Store in a well-ventilated place. Keep cool.

P501	Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: Benzol Phenyl hydride Cyclohexatriene Coalnaphtha;Phene
Formula	: C6H6
Molecular weight	: 78.11
CAS No.	: 71-43-2
EC-NO.	: 200-753-7

Component	Classification	Concentration
Benzene		
	Flammable liquid category 2; skin corrosion/sting Irritant Category 2; serious eye damage/eyes Irritant Category 2A; germ cell mutagenesis Degeneration Category 1B; Carcinogenicity Category 1A; Specific target organ system toxicity (Repeated exposure) Category 1; Inhalation risk Harm Category 1; Acute (short-term) aquatic Hazard category 2; long-term aquatic hazard category No 3; H225, H315, H319, H340, H350, H372, H304, H401, H412	for HPLC,≥99.7%

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

In case of skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

In case of eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

If swallowed

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section

11

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Dry powder dry sand
Unsuitable extinguishing media
Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture

Carbon oxide It is possible for the tongue of fire to flash back through a considerable distance. , The container may explode in case of fire Flammable.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapor, mist or gas. Ensure adequate ventilation. Eliminate all sources of ignition. Evacuate people to a safe area. Note that the vapor accumulation reaches an explosive concentration, and the vapor can accumulate in low-lying places on the ground. For personal protection, see section 8.

6.2 Environmental precautions

If safety can be ensured, measures can be taken to prevent further leakage or overflow. Do not let the product enter the drain. Avoid release to the surrounding environment.

6.3 Methods and materials for containment and cleaning up

Contain the spill, absorb the spill with non-combustible materials (such as sand, soil, diatomaceous earth, vermiculite), collect it in a container, and dispose of it in accordance with local or national regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid exposure: Obtain special instructions before use. Precautions for safe handling Avoid contact with skin and eyes. Avoid breathing vapor or mist. Advice on fire and explosion protection Keep away from fire sources. -No smoking. Take measures to prevent static electricity from accumulating. Hygiene measures Operate in accordance with good industrial hygiene and safety practices. Wash your hands before breaks and at the end of work. For preventive measures, see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, ventilated warehouse. Easy to absorb moisture, Under Inert Atmosphere.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

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

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU)2016/425 and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection,use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN(EU).

Control of environmental exposure
Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	form: liquid color: Colorless
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	5.5°C
f) Initial boiling point and boiling range	80.1°C
g) Flash point	-11°C
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	0.874
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Warming.

10.5 Incompatible materials

acids, Bases, Halogens, Strong oxidizing agents, Metallic salts

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - male - > 2.000 mg/kg

(OECD Test Guideline 401)

Symptoms: Nausea

LC50 Inhalation - Rat - female - 4 h - 43,7 mg/l

(OECD Test Guideline 403)

LD50 Dermal - Rabbit - male and female - > 8.260 mg/kg

(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit Result: Irritating to skin. - 4 h (OECD Test Guideline 404) Drying-out effect resulting in rough and chapped skin.
Serious eye damage/eye irritation
Eyes - Rabbit Result: Eye irritation Remarks: (ECHA)
Respiratory or skin sensitisation
Maximization Test - Guinea pig Result: negative (OECD Test Guideline 406)
Germ cell mutagenicity
May cause genetic defects. Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Chinese hamster lung cells Metabolic activation: with and without metabolic activation Method: US-EPA Result: positive Test Type: In vitro mammalian cell gene mutation test Metabolic activation: with and without metabolic activation Method: US-EPA Result: positive Test Type: Mutagenicity (mammal cell test): micronucleus. Species: Mouse Cell type: Bone marrow Application Route: inhalation (vapor) Method: OECD Test Guideline 474 Result: positive
Carcinogenicity
no data available
Reproductive toxicity
no data available
Specific target organ toxicity - single exposure

no data available
Specific target organ toxicity - repeated exposure
Causes damage to organs through prolonged or repeated exposure. - Blood
Aspiration hazard
May be fatal if swallowed and enters airways.
Additional Information
Repeated dose toxicity - Rat - male and female - Oral - 120 d - NOAEL (No observed adverse effect level) - 100 mg/kg - LOAEL (Lowest observed adverse effect level) - 25 mg/kg Remarks: Subchronic toxicity RTECS: CY1400000
Nausea, Dizziness, Headache, narcosis, Inhalation of high concentrations of benzene may have an initial stimulatory effect on the central nervous system characterized by exhilaration, nervous excitation and/or giddiness, depression, drowsiness, or fatigue. The victim may experience tightness in the chest, breathlessness, and loss of consciousness. Tremors, convulsions, and death due to respiratory paralysis or circulatory collapse can occur in a few minutes to several hours following severe exposures. Aspiration of small amounts of liquid immediately causes pulmonary edema and hemorrhage of pulmonary tissue. Direct skin contact may cause erythema. Repeated or prolonged skin contact may result in drying, scaling dermatitis, or development of secondary skin infections. The chief target organ is the hematopoietic system. Bleeding from the nose, gums, or mucous membranes and the development of purpuric spots, pancytopenia, leukopenia, thrombocytopenia, aplastic anemia, and leukemia may occur as the condition progresses. The bone marrow may appear normal, aplastic or hyperplastic, and may not correlate with peripheral blood-forming tissues. The onset of effects of prolonged benzene exposure may be delayed for many months or years after the actual exposure has ceased., Blood disorders To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Systemic effects: After absorption: agitation Headache Dizziness inebriation Tiredness CNS disorders narcosis respiratory arrest Subacute toxicity After a latency period: Changes in the blood count haemolysis Other dangerous properties can not be excluded. This substance should be handled with particular care.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - 5,3 mg/l - 96 h

(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - 10 mg/l - 48 h

(OECD Test Guideline 202)

Toxicity to algae static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 100 mg/l - 72 h

(OECD Test Guideline 201)

Toxicity to bacteria static test IC50 - - 13 mg/l - 24 h

Remarks: (ECHA)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d Result: 96 % - Readily biodegradable. (OECD Test Guideline 301F)

12.3 Bioaccumulative potential

Bioaccumulation Leuciscus idus (Golden orfe) - 3 d - 0,05 mg/l(benzene) Bioconcentration factor (BCF): 10

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Endangers drinking-water supplies if allowed to enter soil or water. Discharge into the environment must be avoided.

SECTION 13:

13.1 Disposal considerations

Product
Recycle to process, if possible. Consult your local regional authorities and an expert of disposal. You may be able to dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur. Observe all federal, state and local regulations when disposing of the substance.
Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

UN number: 1114	Packing group: II	Class: 3
Proper shipping name: BENZENE	Reportable Quantity(RQ): no data available	Poison Inhalation Hazard: no data available
Environmental Hazards: no		

IMDG

UN number: 1114	Packing group: II	EMS-No: no data available
Proper shipping name: BENZENE		

IATA

UN number: 1114	Packing group: II	Class: 3
Proper shipping name: BENZENE		

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Shanghai Aladdin Biochemical Technology Co., Ltd.
No. 809, Chuhua Branch Road, Fengxian District, Shanghai

SECTION 16: Other information

Further information

Version: v1 Revision Date: 2024-01-22 Print Date: 2024-01-29