



MATERIAL SAFETY DATA SHEET

PRODUCT NAME: BENZENE

CAS Number: 71-43-2

1. IDENTIFICATION:

Product Code : 90127, 90344, 90898, 93054, 94022, 90009, 98142

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2. HAZARDS IDENTIFICATION:**Hazard classification****Physical hazards**

Flammable liquids : Category 2

Health hazards

Skin irritation : Category 2

Eye irritation : Category 2

Germ cell mutagenicity : Category 1B


Carcinogenicity : Category 1A

**Specific target organ
toxicity - repeated
exposure, Blood** : Category 1

Aspiration hazard : Category 1

**Long-term (chronic) aquatic
hazard** : Category 3

Labels elements :

Hazard symbol : 

Signal word : Danger

Hazard statement : Highly flammable liquid and vapor.
May be fatal if swallowed and enters airways.
Causes skin irritation.
Causes serious eye irritation.
May cause genetic defects.
May cause cancer.
Causes damage to organs (Blood) through prolonged or repeated exposure



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Harmful to aquatic life with long lasting effects.

Precautionary statement

- Prevention** : Obtain special instructions before use.
Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Do not handle until all safety precautions have been read and understood.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
Keep container tightly closed. Ground/ bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools. Take precautionary measures against static discharge.
- Response** : IF exposed or concerned: Get medical advice/ attention.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- Storage** : Store in a dry & well-ventilated place. Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- Disposal** : Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
- Other hazards which do not result in GHS classification** : 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.

3. COMPOSITION/ INFORMATION ON INGREDIENTS:

Ingredient	CAS Number	Percent	Hazardous
Benzene	71-43-2	NLT 99.0%	Yes

4. FIRST AID MEASURES:

- General information** : Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
Move to fresh air. Call a physician or poison control center immediately. If breathing stops,
- Inhalation** : provide artificial respiration. If breathing is difficult, give oxygen.
Get medical attention if symptoms persist.
- Skin contact** : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
- Eye contact** : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
- Most important symptoms/effects, acute and delayed** : The most important known symptoms and effects are described in the labelling.
- Indication of immediate medical attention and** : No data available



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special treatment needed

5. FIRE FIGHTING MEASURES:

General information : Flammable liquid and vapor.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Carbon dioxide (CO₂), Foam, Dry powder

Unsuitable extinguishing media : For this substance/mixture no limitations of extinguishing agents are given.

Specific hazards arising from the chemical : Carbon oxides
Flash back possible over considerable distance., Container explosion may occur under fire conditions.
: Combustible.
: Pay attention to flashback.
Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire.
Forms explosive mixtures with air at ambient temperatures.

Special protective equipment and precautions for firefighters

Special firefighting procedures : Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Special protective equipment for fire-fighters : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. ACCIDENTAL RELEASE MEASURES:

Personal precautions, protective equipment and emergency procedures : ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
: Avoid breathing mists or vapors. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning up : Eliminate all ignition sources if safe to do so. Use only non-sparking tools. Take precautionary measures against static discharges. Stop leak if possible without any risk.
: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures : Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental precautions : Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. HANDLING AND STORAGE:

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material



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Conditions for safe storage, including any incompatibilities	:	from direct sunlight. Take precautionary measures against static discharges. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment.
	:	Use only non-sparking tools. Wear protective gloves/protective clothing/eye protection/face protection.
	:	Avoid contact with eyes, skin, and clothing. Do not breathe mist or vapor. Use only with adequate ventilation.
	:	Wash hands thoroughly after handling.
	:	Keep away from food, drink and animal feeding stuffs. Keep container tightly closed in a dry, well-ventilated place. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

8. EXPOSURE CONTROLS PERSONAL PROTECTION:**Control parameters****Appropriate engineering****controls** : No data available**Individual protection measures, such as personal protective equipment**

General information	:	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.
Eye/face protection	:	Wear safety glasses with side shields (or goggles).
Hand protection	:	Chemical resistant gloves.
Other	:	Wear suitable protective clothing.
Respiratory protection	:	Recommended Filter type: Filter A-(P3).
Hygiene measures	:	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower. Avoid contact with eyes, skin, and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance	:	Clear, colorless liquid
Odor	:	No data available
Solubility	:	Miscible with almost all organic solvents.
Formula	:	C ₆ H ₆
Molecular Weight	:	78.11 g/mol



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Density	: 0.877 - 0.879 g/cm ³ at 20°C
pH	: No data available
% Volatiles by volume @ 21C (70F)	: No data available
Boiling Point	: 80°C
Melting Point	: 5.5°C
Flash Point	: -11 °C
Vapor Density (Air=1)	: No data available
Vapor Pressure (mm Hg)	: 100 @ 20°C
Evaporation Rate (BuAc=1)	: No data available

10. STABILITY AND REACTIVITY:

Reactivity	: Vapors may form explosive mixture with air.
Chemical stability	: Material is stable under ambient conditions.. Exothermic reaction with: halogens, Halogenated hydrocarbon in the presence of: Light metals Risk of explosion with: halogen-halogen compounds, Nitric acid, Boranes, Ozone, peroxi compounds, perchlorates, permanganic acid, perchloryl fluoride, Strong oxidizing agents,
Possibility of hazardous reactions	: Chlorine, fluorides, uranium, hexafluoride, Oxygen, liquid. Risk of ignition or formation of inflammable gases or vapours with: chromium(VI) oxide, Fluorine, nitryl compounds, Oxygen, oxyhalogenic compounds. Violent reactions possible with: mineral acids sulfur
Conditions to avoid	: Warming.
Incompatible materials	: Rubber, various plastics
Hazardous decomposition products	: In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION:

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product	: LD 50 (Rat): 2.000 mg/kg
Dermal Product	: LD 50 (Rabbit): 8.260 mg/kg
Inhalation Product	: LC 50 (Rat): 43.7 mg/l
Repeated dose toxicity Product	: No data available.



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Skin corrosion/irritation Product	: Irritating to skin.
Serious eye damage/eye irritation Product	: Irritating to eyes.
Respiratory or skin sensitization Product	: Negative
Carcinogenicity Product	: May cause cancer. Positive evidence from human epidemiological studies.
Germ cell mutagenicity	May cause genetic defects. Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Chinese hamster lung cells Metabolic activation: with and without metabolic activation : Result: positive Test Type: In vitro mammalian cell gene mutation test Metabolic activation: with and without metabolic activation Result: positive Test Type: Mutagenicity (mammal cell test): micronucleus. Species: Mouse Cell type: Bone marrow Application Route: inhalation (vapor) Result: positive
Reproductive toxicity Product	: No data available
Specific target organ toxicity - single exposure Product	: No data available
Specific target organ toxicity - repeated exposure Product	: Causes damage to organs through prolonged or repeated exposure. – Blood.
Aspiration hazard Product	: May be fatal if swallowed and enters airways.
Other effects	: None known.

12. ECOLOGICAL INFORMATION:**Ecotoxicity****Acute hazards to the aquatic environment**

Fish Product	: Flow-through test LC50 - Oncorhynchus mykiss (rainbow trout) - 5,3 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	: Static test EC50 - Daphnia magna (Water flea) - 10 mg/l - 48 h



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Chronic hazards to the aquatic environment

Fish Product : No data available.

Aquatic invertebrates
Product : No data available.Toxicity to Aquatic Plants
Product: : No data available.

Persistence and degradability

Biodegradation Product : Readily biodegradable.

BOD/COD ratio Product : No data available.

Bioaccumulative potential

Bioaccumulation : Leuciscus idus (Golden orfe) - 3 d - 0,05 mg/l(benzene),
Bioconcentration factor (BCF): 10Partition coefficient n-
octanol / water (log Kow) : No data available.Product
Mobility in soil : No data available.Other adverse effects : Endangers drinking-water supplies if allowed to enter soil or water. Discharge into the
environment must be avoided.

13. DISPOSAL CONSIDERATION:

Disposal instructions : Discharge, treatment, or disposal may be subject to national, state, or local laws. Disposal
recommendations are based on uncontaminated material.Contaminated packaging : Since emptied containers retain product residue, follow label warnings even after container
is emptied.

14. TRANSPORT INFORMATION:

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
ADR/RID	UN 1114	Benzene	3	II	No
IMDG	UN 1219	Benzene	3	II	No
IATA	UN 1219	Benzene	3	II	No

15. REGULATORY INFORMATION:

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

Safety, health and environmental regulations/legislation specific for the substance or mixture

No Data Available.

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16. OTHER INFORMATION:

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

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Version : 01

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