



# BENZENE (D1, 98%)

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 17/12/2010  
DLM-1101

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Version: 3.0

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

#### 1.1. Product identifier

Product form : Substance  
Substance name : BENZENE (D1, 98%)  
EC Index No : 601-020-00-8 (Unlabeled)  
EC No : 214-321-0 (Unlabeled)  
CAS No : 1120-89-4  
REACH registration No : 01-2119447106-44  
Product code : DLM-1101  
Formula : C6H5D

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

##### 1.2.1. Relevant identified uses

Main use category : Professional use  
Industrial/Professional use spec : For professional use only

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.  
50 Frontage Road  
Andover, MA 01810  
USA

USA: 1-800-322-1174 Int: 1-978-749-8000  
[cilsales@isotope.com](mailto:cilsales@isotope.com) [www.isotope.com](http://www.isotope.com)

#### Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)  
International: 1-703-741-5970 (24 hours)

### SECTION 2: Hazards identification

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

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 2 H225  
Skin Irrit. 2 H315  
Muta. 1B H340  
Carc. 1A H350  
Asp. Tox. 1 H304

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

##### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Carc.Cat.1; R45  
Carc.Cat.1; R49  
F; R11  
Muta.Cat.2; R46  
Xi; R38  
Xn; R65

Full text of R-phrases: see section 16

##### GHS-US classification

Flam. Liq. 2 H225  
Skin Irrit. 2 H315  
Muta. 1B H340  
Carc. 1A H350  
Asp. Tox. 1 H304

Full text of H statements : see section 16

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### Adverse physicochemical, human health and environmental effects

Blood, Eyes, Female reproductive system, Bone marrow. Highly flammable liquid and vapor. May cause cancer (if inhaled, if swallowed, in contact with skin). May cause genetic defects (if inhaled, if swallowed, in contact with skin). Causes skin irritation. Causes serious eye irritation. May be fatal if swallowed and enters airways.

## 2.2. Label elements

### Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazard statements (CLP) :

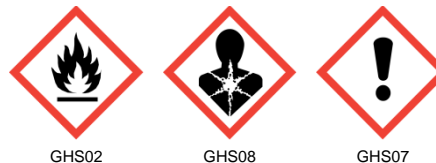
H225 - Highly flammable liquid and vapor  
H304 - May be fatal if swallowed and enters airways  
H315 - Causes skin irritation  
H340 - May cause genetic defects (if inhaled, if swallowed, in contact with skin)  
H350 - May cause cancer (if inhaled, if swallowed, in contact with skin)

Precautionary statements (CLP) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P233 - Keep container tightly closed  
P240 - Ground/bond container and receiving equipment  
P241 - Use explosion-proof electrical, lighting, ventilating equipment  
P264 - Wash hands, forearms and face thoroughly after handling  
P280 - Wear protective gloves, protective clothing  
P301+P310 - IF SWALLOWED: Immediately call a doctor, a POISON CENTER  
P302+P352 - IF ON SKIN: Wash with plenty of soap and water

### GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H225 - Highly flammable liquid and vapor  
H304 - May be fatal if swallowed and enters airways  
H315 - Causes skin irritation  
H340 - May cause genetic defects (Dermal, Inhalation, oral)  
H350 - May cause cancer (Dermal, Inhalation, oral)

Precautionary statements (GHS-US) :

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking  
P233 - Keep container tightly closed  
P240 - Ground/Bond container and receiving equipment  
P241 - Use explosion-proof electrical, lighting, ventilating equipment  
P242 - Use only non-sparking tools  
P243 - Take precautionary measures against static discharge  
P264 - Wash hands, forearms and face thoroughly after handling  
P280 - Wear protective clothing, protective gloves  
P301+P310 - If swallowed: Immediately call a doctor, a POISON CENTER  
P302+P352 - If on skin: Wash with plenty of water  
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
P308+P313 - If exposed or concerned: Get medical advice/attention  
P321 - Specific treatment (see Hazardous component(s) for labeling on this label)  
P331 - Do NOT induce vomiting  
P332+P313 - If skin irritation occurs: Get medical advice/attention  
P362+P364 - Take off contaminated clothing and wash it before reuse  
P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide (CO<sub>2</sub>), dry extinguishing powder to extinguish  
P403+P235 - Store in a well-ventilated place. Keep cool  
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

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### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
BENZENE (D1, 98%)	(CAS No) 1120-89-4 (EC No) 214-321-0 (Unlabeled) (EC Index No) 601-020-00-8 (Unlabeled) (REACH-no) 01-2119447106-44	100	Carc.Cat.1; R45 Carc.Cat.1; R49 F; R11 Muta.Cat.2; R46 Xi; R38 Xn; R65

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
BENZENE (D1, 98%)	(CAS No) 1120-89-4 (EC No) 214-321-0 (Unlabeled) (EC Index No) 601-020-00-8 (Unlabeled) (REACH-no) 01-2119447106-44	100	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Muta. 1B, H340 Carc. 1A, H350 Asp. Tox. 1, H304

Full text of R- and H- phrases: see section 16

Name	Product identifier	%	GHS-US classification
BENZENE (D1, 98%) (Main constituent)	(CAS No) 1120-89-4	100	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Muta. 1B, H340 Carc. 1A, H350 Asp. Tox. 1, H304

Full text of H-phrases: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Call a physician immediately. Evacuate danger area.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. Get medical advice/attention.
First-aid measures after skin contact	: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Wash with plenty of soap and water, Get immediate medical advice/attention. Get medical advice/attention. Specific treatment (see Hazard pictograms (CLP) on this label).
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Immediately call a poison center or doctor/physician.

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

Symptoms/injuries	: May cause genetic defects (in contact with skin, if inhaled, if swallowed).
Symptoms/injuries after inhalation	: May be fatal if inhaled. May cause respiratory irritation.
Symptoms/injuries after skin contact	: Harmful in contact with skin. Causes skin irritation.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways. Risk of lung edema.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Alcohol resistant foam. Water spray. Dry powder. Foam. Carbon dioxide.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Highly flammable liquid and vapor.
Explosion hazard	: Flash back possible over important distance. Explosion risk in case of fire.
Reactivity	: vapors may form flammable mixture with air. Highly flammable liquid and vapor.

### 5.3. Advice for firefighters

Firefighting instructions : Do not enter fire area without proper protective equipment, including respiratory protection.

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- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
- Other information : Use water spray to cool exposed surfaces.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Wear personal protective equipment. No open flames, no sparks, and no smoking. Only qualified personnel equipped with suitable protective equipment may intervene. Ensure adequate air ventilation. Remove all sources of ignition. Evacuate area. Special attention should be given to low areas/pits where flammable vapors can accumulate.

##### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

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

- For containment : Dike and contain spill. Dispose as hazardous waste. Comply with local regulations for disposal.
- Methods for cleaning up : Vacuum with an equipment that avoids ignition risk. Notify authorities if product enters sewers or public waters.
- Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.
- Precautions for safe handling : No open flames. No smoking. Use only non-sparking tools. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Eliminate all ignition sources if safe to do so.
- Hygiene measures : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof Lighting equipment, ventilating equipment.
- Storage conditions : Store at room temperature away from light and moisture.
- Incompatible materials : Heat sources.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

BENZENE (D1, 98%) (1120-89-4)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	0.50000000 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	2.5 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	ACGIH Ceiling (mg/m <sup>3</sup> )	0.03 mg/g Parameter: S-Phenylmercapuric acid Biological Specimen: in urine; 0.5000 mg/g Parameter: t,t-Muconic acid Biological Specimen: In Urine; Basis: ACGIH - Biological Exposure Indices (BEI) Remark: End of shift (As soon as possible after exposure ceases)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Leukemia. Substances for which there is a Biological Exposure Index or Indices (see BEI section). Confirmed human carcinogen. Danger of cutaneous absorption.

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BENZENE (D1, 98%) (1120-89-4)		
USA NIOSH	NIOSH REL (TWA) (ppm)	0.1 ppm Basis: USA. NIOSH. Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (ppm)	1 ppm Basis: USA. NIOSH. Recommended Exposure Limits
USA NIOSH	Remark (NIOSH)	Potential Occupational Carcinogen. See Appendix A.
USA OSHA	OSHA PEL (TWA) (ppm)	10 ppm Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-2
USA OSHA	OSHA PEL (Ceiling) (ppm)	25 ppm Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-2
USA OSHA	Remark (OSHA)	Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift: 50 ppm Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-2. Z37-40-1969 See 1910.1028. See Table Z-2 for limits applicable in the operations or sectors excluded in 1910.1028. The final benzen standard in 1910.1028 applies to all occupational exposures to benzene except some subsegments of industry where exposures are consistently under the action level (i.e. , distribution and sale of fuels, sealed containers and pipelines, coke production, oil and gas drilling and production, natural gas processing, and the percentage exclusion for liquid mixtures); for the excepted subsegments, the benzene limits in Table Z-2 apply.

### 8.2. Exposure controls

Appropriate engineering controls

: Ensure good ventilation of the work station.

Personal protective equipment

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



Materials for protective clothing

: Wear suitable protective clothing and gloves.

Hand protection

: protective gloves.

Eye protection

: Chemical goggles or face shield. Chemical goggles or safety glasses. Safety glasses.

Skin and body protection

: Wear suitable protective clothing.

Respiratory protection

: Wear respiratory protection.

Environmental exposure controls

: Avoid release to the environment.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Appearance	: Liquid.
Molecular mass	: 79.12 g/mol (Labeled)
Color	: Colourless.
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: 5.5 °C (41.9 °F) - lit.
Freezing point	: No data available
Boiling point	: 80 - 80.2 °C (176 - 176.4 °F) - lit
Flash point	: -11 °C (12.2 °F) - closed cup
Auto-ignition temperature	: 562 °C (1,043.6 °F)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapor
Vapor pressure	: 221.3 hPa (166 mmHg) at 37.7 °C (99.9 °F); 99.5 hPa (74.6 mmHg) at 20 °C (68 °F)
Relative vapor density at 20 °C	: No data available
Relative density	: No data available

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Specific gravity / density	: 0.88 g/ml at 25 °C (77 °F) (Labeled)
Solubility	: Water: ca.1.88 g/l at 23.5 °C (74.3 °F) - Soluble
Log Pow	: 2.13 at 25 °C (77 °F)
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: 1.3 - 8 % (V)

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

vapors may form flammable mixture with air. Highly flammable liquid and vapor.

### 10.2. Chemical stability

Stable if stored under recommended conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

Acids. Bases. Halogens. Strong oxidizing agents. Metallic salts.

### 10.6. Hazardous decomposition products

Carbon oxides (CO, CO<sub>2</sub>).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

BENZENE (D1, 98%) (1120-89-4)	
LD50 oral rat	> 5960 mg/kg male (OECD 401 method)
LD50 dermal rabbit	8263 mg/kg
LC50 inhalation rat (mg/l)	43.7 mg/l/4h female - 4 h (OECD 403 method)
ATE CLP (oral)	2990.000 mg/kg body weight
ATE CLP (dermal)	8263.000 mg/kg body weight
ATE CLP (vapors)	44.700 mg/l/4h
ATE CLP (dust, mist)	44.700 mg/l/4h

Skin corrosion/irritation	: Skin. rabbit. Result: Skin irritation. 4 Hours. (OECD 404 method)
Serious eye damage/irritation	: Eyes. rabbit. Result: Eye irritation
Respiratory or skin sensitization	: Maximisation Test - Guinea pig. Result: Does not cause skin sensitisation.
Germ cell mutagenicity	: Laboratory experiments have shown mutagenic effects. In vitro tests showed mutagenic effects. . Chinese hamster lung cells. Result: Positive. . OECD Test Guideline 475 mouse - male. Result: Positive
Carcinogenicity	: Carcinogenicity. male. human. Inhalation. Tumorigenic: Carcinogenic by RTECS criteria. Leukemia. blood. Thrombocytopenia. . Carcinogenicity - Rat - Oral. Tumorigenic: Carcinogenic by RTECS criteria. Endocrine: Tumors. Leukemia. This is or contains a component that has been reported to be carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification. Human carcinogen.

BENZENE (D1, 98%) (1120-89-4)	
NOAEL (chronic,oral,animal/male,2 years)	100 mg/kg body weight Rat - male and female - OECD 408 method

Reproductive toxicity	: Reproductive toxicity - mouse - Intraperitoneal. Effects on Fertility: Pre-implantation mortality (e.g. reduction in number of implants per female; total number of implants per corpora lutea.) Effects on Embryo or Fetus: Fetal death. . Developmental Toxicity - Rat - Inhalation. Effects on Embryo or Fetus: Extra embryonic structures (e.g. placenta, umbilical cord). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g. stunted fetus). . Developmental Toxicity - Mouse - Inhalation. Effects on Embryo or Fetus: Cytological changes (including somatic cell genetic material). Specific Developmental Abnormalities: Blood and lymphatic system (including spleen and marrow).
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Specific target organ toxicity – single exposure	: Not classified Causes damage to organs.
Specific target organ toxicity – repeated exposure	: Not classified No data available.
Aspiration hazard	: May be fatal if swallowed and enters airways.
Potential Adverse human health effects and symptoms	: 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. Aspirations of small amounts of liquid immediately causes pulmonary edema and hemorrhage of pulmonary disease. 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 months or years after the actual exposure has ceased. Blood disorders. Effects on humans. stomach. 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.
IARC group	: 1
Symptoms/injuries after inhalation	: May be fatal if inhaled. May cause respiratory irritation.
Symptoms/injuries after skin contact	: Harmful in contact with skin. Causes skin irritation.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways. Risk of lung edema.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

BENZENE (D1, 98%) (1120-89-4)	
LC50 fish 1	15 - 32 mg/l Pim ephales promelas (fathead minnow) - 96 h
EC50 other aquatic organisms 1	17.2 mg/l Ceriodaphnia dubia (Water flea) - 48 h
ErC50 (algae)	100 mg/l Growth inhibition EC50 - Pseudokirchneriella subcapitata (green algae) - 72 h (OECD 201 method)

### 12.2. Persistence and degradability

BENZENE (D1, 98%) (1120-89-4)	
Persistence and degradability	Aerobic - exposure time: 28 d.
Biodegradation	96 % - Readily biodegradable (OECD 301F method)

### 12.3. Bioaccumulative potential

BENZENE (D1, 98%) (1120-89-4)	
BCF fish 1	0.05 mg/l Leuciscus idus (Golden orfe) - 3 d
Bioconcentration factor (BCF REACH)	10
Log Pow	2.13 at 25 °C (77 °F)

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

Other adverse effects : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Avoid release to the environment. Disposal must be done according to official regulations.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and Local environmental control regulations.

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- 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.
- Additional information : Flammable vapors may accumulate in the container.
- Ecology - waste materials : Dispose of as unused product.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

- UN-No.(DOT) : 1114  
DOT NA no. UN1114

#### 14.2. UN proper shipping name

- Proper Shipping Name (DOT) : Benzene  
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120  
Hazard labels (DOT) : 3 - Flammable liquid



- Packing group (DOT) : II - Medium Danger  
DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.  
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)  
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling =  $97 / 1 + a (tr - tf)$  Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
- DOT Packaging Exceptions (49 CFR 173.xxx) : 150  
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202  
DOT Packaging Bulk (49 CFR 173.xxx) : 242

#### 14.3. Additional information

- Emergency Response Guide (ERG) Number : 130  
Other information : No supplementary information available.

#### Overland transport

- Packing group (ADR) : II  
Class (ADR) : 3 - Flammable liquid  
Hazard identification number (Kemler No.) : 33  
Classification code (ADR) : F1  
Hazard labels (ADR) : 3 - Flammable liquids



- Orange plates : 

- Tunnel restriction code (ADR) : D/E  
Limited quantities (ADR) : 11  
EAC : 3WE  
APP : A(fl)  
Excepted quantities (ADR) : E2

#### Transport by sea

- DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
- DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"



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MFAG-No : 130

### Air transport

DOT Quantity Limitations Passenger aircraft/rail : 5 L  
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 60 L  
CFR 175.75)

Civil Aeronautics Law : Flammable liquids

### 14.4. Environmental hazards

Other information : No supplementary information available.

### 14.5. Special precautions for user

### 14.6. 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

#### BENZENE (D1, 98%) (1120-89-4)

Subject to reporting requirements of United States SARA Section 313

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
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SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
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### 15.2. International regulations

#### CANADA

#### BENZENE (D1, 98%) (1120-89-4)

Listed on the Canadian DSL (Domestic Substances List)

#### 15.2.1. National regulations

No additional information available

### 15.3. US State regulations

#### BENZENE (D1, 98%)(1120-89-4)

U.S. - California - Proposition 65 - Carcinogens List	Yes
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U.S. - California - Proposition 65 - Developmental Toxicity	Yes
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U.S. - California - Proposition 65 - Reproductive Toxicity - Female	Yes
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U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Yes
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State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
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## SECTION 16: Other information

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.

Full text of R-, H- and EUH-phrases:

Asp. Tox. 1	Aspiration hazard Category 1
Carc. 1A	Carcinogenicity Category 1A
Flam. Liq. 2	Flammable liquids Category 2
Muta. 1B	Germ cell mutagenicity Category 1B
Skin Irrit. 2	Skin corrosion/irritation Category 2
H225	Highly flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H340	May cause genetic defects
H350	May cause cancer
R11	Highly flammable

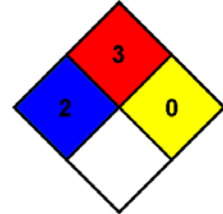
# BENZENE (D1, 98%) DLM-1101

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

R38	Irritating to skin
R45	May cause cancer
R46	May cause heritable genetic damage
R49	May cause cancer by inhalation
R65	Harmful: may cause lung damage if swallowed
F	Highly flammable
Xi	Irritant
Xn	Harmful

- NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
- NFPA fire hazard : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



### HMIS III Rating

- Health : 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability : 3 Serious Hazard
- Physical : 0 Minimal Hazard

CIL Multi-Solvent Mixture SDS

*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*