

## SAFETY DATA SHEET

Creation Date 21-Jun-2010

Revision Date 24-Dec-2021

Revision Number 5

### 1. Identification

<b>Product Name</b>	<b>Diethylene glycol monobutyl ether</b>
<b>Cat No. :</b>	<b>D50-4</b>
<b>CAS No</b>	112-34-5
<b>Synonyms</b>	Butyl diglycol, Diethylene glycol monobutyl ether, Butyl carbitol, 2-(2-Butoxyethoxy)ethanol, Dioxitol
<b>Recommended Use</b>	Laboratory chemicals.
<b>Uses advised against</b>	Food, drug, pesticide or biocidal product use.

#### Details of the supplier of the safety data sheet Company

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### 2. Hazard(s) identification

#### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious Eye Damage/Eye Irritation	Category 2
Specific target organ toxicity - (repeated exposure)	Category 2
Target Organs - Kidney, Liver.	

#### Label Elements

##### **Signal Word**

Warning

##### **Hazard Statements**

Causes serious eye irritation

May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Wear eye/face protection

Do not breathe dust/fume/gas/mist/vapors/spray

**Response**

Get medical attention/advice if you feel unwell

**Eyes**

IF IN EYES: 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

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

None identified

### 3. Composition/Information on Ingredients

Component	CAS No	Weight %
Diethylene glycol monobutyl ether	112-34-5	> 95

### 4. First-aid measures

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
<b>Inhalation</b>	Remove to fresh air. Get medical attention if symptoms occur. If not breathing, give artificial respiration.
<b>Ingestion</b>	Do NOT induce vomiting. Get medical attention.
<b>Most important symptoms and effects</b>	No information available.
<b>Notes to Physician</b>	Treat symptomatically

### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Water spray, carbon dioxide (CO <sub>2</sub> ), dry chemical, alcohol-resistant foam.
<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	100 °C / 212 °F
<b>Method -</b>	CC (closed cup) ISO 2719
<b>Autoignition Temperature</b>	227 °C / 440.6 °F

**Explosion Limits**

<b>Upper</b>	5.30 vol %
<b>Lower</b>	0.70 vol %
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

**Specific Hazards Arising from the Chemical**

Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

**Hazardous Combustion Products**

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

<b>Health</b>	<b>Flammability</b>	<b>Instability</b>	<b>Physical hazards</b>
2	1	0	N/A

**6. Accidental release measures**

<b>Personal Precautions</b>	Use personal protective equipment as required. Remove all sources of ignition. Avoid contact with skin, eyes or clothing.
<b>Environmental Precautions</b>	Avoid release to the environment. See Section 12 for additional Ecological Information.

<b>Methods for Containment and Clean Up</b>	Remove all sources of ignition. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.
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**7. Handling and storage**

<b>Handling</b>	Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition.
<b>Storage.</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Incompatible Materials. Strong oxidizing agents. Metals. Strong acids. Strong bases. Peroxides.

**8. Exposure controls / personal protection****Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Diethylene glycol monobutyl ether	TWA: 10 ppm			

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

<b>Engineering Measures</b>	Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.
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**Personal Protective Equipment**

<b>Eye/face Protection</b>	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Physical State</b>	Liquid
<b>Appearance</b>	Colorless
<b>Odor</b>	Slight
<b>Odor Threshold</b>	No information available
<b>pH</b>	No information available
<b>Melting Point/Range</b>	-68 °C / -90.4 °F
<b>Boiling Point/Range</b>	231 °C / 447.8 °F @ 760 mmHg
<b>Flash Point</b>	100 °C / 212 °F
<b>Method -</b>	CC (closed cup) ISO 2719
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid,gas)</b>	Not applicable
<b>Flammability or explosive limits</b>	
<b>Upper</b>	5.30 vol %
<b>Lower</b>	0.70 vol %
<b>Vapor Pressure</b>	130 mmHg @ 30°C
<b>Vapor Density</b>	5.6
<b>Specific Gravity</b>	0.955
<b>Solubility</b>	No information available
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	227 °C / 440.6 °F
<b>Decomposition Temperature</b>	No information available
<b>Viscosity</b>	6.16 mPa.s @ 20 °C
<b>Molecular Formula</b>	C8 H18 O3
<b>Molecular Weight</b>	162.23

## 10. Stability and reactivity

<b>Reactive Hazard</b>	None known, based on information available
<b>Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.
<b>Incompatible Materials</b>	Strong oxidizing agents, Metals, Strong acids, Strong bases, Peroxides
<b>Hazardous Decomposition Products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> )
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	May form explosive peroxides.

## 11. Toxicological information

### Acute Toxicity

#### Product Information

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Diethylene glycol monobutyl ether	LD50 = 5660 mg/kg ( Rat )	LD50 = 2700 mg/kg ( Rabbit )	Not listed

**Toxicologically Synergistic** No information available

**Products****Delayed and immediate effects as well as chronic effects from short and long-term exposure****Irritation** Irritating to eyes**Sensitization** No information available**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Diethylene glycol monobutyl ether	112-34-5	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects** No information available**Reproductive Effects** No information available.**Developmental Effects** No information available.**Teratogenicity** No information available.**STOT - single exposure** None known**STOT - repeated exposure** Kidney Liver**Aspiration hazard** No information available**Symptoms / effects, both acute and delayed** No information available**Endocrine Disruptor Information** No information available**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

**Ecotoxicity**

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Diethylene glycol monobutyl ether	EC50: > 100 mg/L, 96h (Desmodesmus subspicatus)	LC50: = 1300 mg/L, 96h static (Lepomis macrochirus)	Not listed	EC50: > 100 mg/L, 48h (Daphnia magna)

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.**Bioaccumulation/ Accumulation** No information available.**Mobility** . Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Diethylene glycol monobutyl ether	0.56

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

**DOT** Not regulated  
**TDG** Not regulated  
**IATA** Not regulated

IMDG/IMO Not regulated

## 15. Regulatory information

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Diethylene glycol monobutyl ether	112-34-5	X	ACTIVE	-

**Legend:**

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Diethylene glycol monobutyl ether	112-34-5	X	-	203-961-6	X	X	X	X	X	KE-10466

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)U.S. Federal Regulations**SARA 313**

Component	CAS No	Weight %	SARA 313 - Threshold Values %
Diethylene glycol monobutyl ether	112-34-5	> 95	1.0

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

**Clean Air Act**

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Diethylene glycol monobutyl ether	X		-

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Diethylene glycol monobutyl ether	-	X	X	X	-

**U.S. Department of Transportation**

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations****Mexico - Grade**

No information available

**Authorisation/Restrictions according to EU REACH**

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Diethylene glycol monobutyl ether	-	Use restricted. See item 55. (see link for restriction details) Use restricted. See item 75. (see link for restriction details)	-

<https://echa.europa.eu/substances-restricted-under-reach>

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Diethylene glycol monobutyl ether	112-34-5	Listed	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Diethylene glycol monobutyl ether	112-34-5	Not applicable	Not applicable	Not applicable	Not applicable

## 16. Other information

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**Creation Date**

21-Jun-2010

**Revision Date**

24-Dec-2021

**Print Date**

24-Dec-2021

**Revision Summary**

This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**