

# SAFETY DATA SHEET



**1,3-BG (Industrial Quality)**  
**10010**

Version / Revision  
Supersedes Version

4.01  
4.00\*\*\*

Revision Date  
Issuing date

12-Feb-2021  
12-Feb-2021

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

### 1.1. Product identifier

Identification of the  
substance/preparation

**1,3-BG (Industrial Quality)**

Chemical Name 1,3-Butylene glycol  
CAS-No 107-88-0  
EC No. 203-529-7

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

Use of the Substance /  
Preparation Intermediate, Monomer.  
Uses advised against None

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

Company/Undertaking  
Identification **OQ Chemicals Corporation**  
15375 Memorial Drive  
West Memorial Place I  
Suite 300  
Houston, TX 77079  
USA

Product Information Product Stewardship  
FAX: +49 (0)208 693 2053  
email: sc.psq@oq.com

### 1.4. Emergency telephone number

Emergency telephone number +44 (0) 1235 239 670 (UK) available 24/7  
NCEC +1 202 464 2554 available 24/7  
Local emergency telephone  
number +61 2 8014 4558 (Australia)  
18000 74234 (Australia toll-free number)  
+64 9 929 1483 (New Zealand)  
0800 446 881 (New Zealand toll-free number)  
+65 3158 1195 (Sri Lanka)  
007 803 011 0293 (Indonesia toll-free number)  
+60 3 6207 4347 (Malaysia)  
001 800 120 666 751 (Thailand toll-free number)  
+65 3158 1200 (Bangladesh)  
+63 2 8231 2149 (Philippines)  
+84 28 4458 2388 (Vietnam)  
+65 3165 2217 (Singapore)  
available 24/7

# SAFETY DATA SHEET



1,3-BG (Industrial Quality)  
10010

Version / Revision 4.01

## SECTION 2: Hazards identification

### Europe

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

Based on present data no classification and labelling is required according to Directive 1272/2008/EC and its amendments (CLP Regulation)

#### 2.2. Label elements

Not required.

#### 2.3. Other hazards

None known

**PBT and vPvB assessment** This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB)

### USA

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

This substance is not hazardous in accordance with paragraph (d) of §1910.1200 (GHS-US classification).

**OSHA Specified Hazards** Not applicable.

#### 2.2. Label elements

Not required according to §1910.1200 (GHS-US labeling).

#### 2.3. Other hazards

None known\*\*\*

## SECTION 3: Composition / information on ingredients

### 3.1. Substances

Component	CAS-No	REACH-No	1272/2008/EC	Concentration (%)
1,3-Butylene glycol (Butane-1,3-diol)	107-88-0	01-2119455875-25	-	> 99,5

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Inhalation

# SAFETY DATA SHEET



**1,3-BG (Industrial Quality)  
10010**

**Version / Revision** 4.01

Keep at rest. Aerate with fresh air. When symptoms persist or in all cases of doubt seek medical advice.

## **Eyes**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

## **Skin**

Wash off immediately with plenty of water. When symptoms persist or in all cases of doubt seek medical advice.

## **Ingestion**

Call a physician immediately. Do not induce vomiting without medical advice.

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

### **Main symptoms**

cough.

### **Special hazard**

Lung irritation.

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

### **General advice**

Remove contaminated, soaked clothing immediately and dispose of safely. First aider needs to protect himself.

Treat symptomatically. If ingested, irrigate the stomach using activated charcoal.

## **SECTION 5: Firefighting measures**

### **5.1. Extinguishing media**

#### **Suitable extinguishing media**

foam, dry chemical, carbon dioxide (CO<sub>2</sub>), water spray

#### **Unsuitable Extinguishing Media**

Do not use a solid water stream as it may scatter and spread fire.

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

Under conditions giving incomplete combustion, hazardous gases produced may consist of:

carbon monoxide (CO)

carbon dioxide (CO<sub>2</sub>)

Combustion gases of organic materials must in principle be graded as inhalation poisons

Vapours are heavier than air and may spread along floors

### **5.3. Advice for firefighters**

#### **Special protective equipment for firefighters**

Fire fighter protection should include a self-contained breathing apparatus (NIOSH-approved or EN 133) and full fire-fighting turn out gear.

#### **Precautions for firefighting**

Cool containers / tanks with water spray. Dike and collect water used to fight fire. Keep people away from and upwind of fire.

# SAFETY DATA SHEET



1,3-BG (Industrial Quality)  
10010

Version / Revision 4.01

## SECTION 6: Accidental release measures

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

For non-emergency personnel: For personal protective equipment see section 8. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas. Keep away from heat and sources of ignition.

For emergency responders: Personal protection see section 8.

### 6.2. Environmental precautions

Prevent further leakage or spillage. Do not discharge product into the aquatic environment without pretreatment (biological treatment plant).

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

#### Methods for containment

Stop the flow of material, if possible without risk. Dike spilled material, where this is possible.

#### Methods for cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. Dispose of in accordance with local regulations. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).

### 6.4. Reference to other sections

For personal protective equipment see section 8.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Provide sufficient air exchange and/or exhaust in work rooms.

#### Hygiene measures

When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

#### Advice on the protection of the environment

See Section 8: Environmental exposure controls.

#### Incompatible products

strong oxidizing agents

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

#### Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). In case of fire, emergency cooling with water spray should be available. Ground and bond containers when transferring material.

#### Technical measures/Storage conditions

# SAFETY DATA SHEET



**1,3-BG (Industrial Quality)  
10010**

**Version / Revision** 4.01

Keep containers tightly closed in a cool, well-ventilated place. Handle and open container with care. Keep at temperatures between 15 and 32 °C (60 and 90 °F).

## **Temperature class**

T2

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

Polymer productions  
pharmaceutical  
Formulation  
laboratory chemicals  
Lubricant in medical care  
Ceramic pastes and glazes (dental technology)  
Ingredient in fog machines  
Intermediate  
Consumer use of washing and cleaning products  
Cosmetics, personal care products

## **SECTION 8: Exposure controls / personal protection**

### **8.1. Control parameters**

#### **Exposure limits European Union**

No exposure limits established

#### **Exposure limits Germany**

No exposure limits established.

#### **Exposure limits United States of America**

No exposure limits established.

### **8.2. Exposure controls**

#### **Appropriate Engineering controls**

General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

#### **Personal protective equipment**

##### **General industrial hygiene practice**

Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Ensure that eyewash stations and safety showers are close to the workstation location.

##### **Hygiene measures**

When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

##### **Eye protection**

Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash

# SAFETY DATA SHEET



1,3-BG (Industrial Quality)  
10010

Version / Revision 4.01

to the face.

## Hand protection

Wear protective gloves. Recommendations are listed below. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this chemical, material selection should be based on protection for all chemicals present.

<b>Suitable material</b>	nitrile rubber
<b>Evaluation</b>	according to EN 374: level 6
<b>Glove thickness</b>	approx 0,55 mm
<b>Break through time</b>	> 480 min

<b>Suitable material</b>	polyvinylchloride / nitrile rubber
<b>Evaluation</b>	according to EN 374: level 6
<b>Glove thickness</b>	approx 0,9 mm
<b>Break through time</b>	> 480 min

## Skin and body protection

Impervious clothing. Wear face-shield and protective suit for abnormal processing problems.

## Respiratory protection

Respirator with filter for organic vapour. Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Equipment should conform to NIOSH, EN or other applicable national standards.

## Environmental exposure controls

If possible use in closed systems. If leakage can not be prevented, the substance needs to be suck off at the emersion point, if possible without danger. Observe the exposure limits, clean exhaust air if needed. If recycling is not practicable, dispose of in compliance with local regulations. Inform the responsible authorities in case of leakage into the atmosphere, or of entry into waterways, soil or drains.

## SECTION 9: Physical and chemical properties

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

<b>Appearance</b>	liquid
<b>Colour</b>	colourless
<b>Odour</b>	weak
<b>Odour threshold</b>	No data available
<b>pH</b>	6 - 9***
<b>Melting point/range</b>	-57 °C
<b>Boiling point/range</b>	209 °C @ 1013 hPa
<b>Flash point</b>	115 °C @ 1013 hPa
<b>Method</b>	ISO 2719
<b>Evaporation rate</b>	No data available
<b>Flammability (solid, gas)</b>	Does not apply, the substance is a liquid
<b>Lower explosion limit</b>	1,9 Vol %
<b>Upper explosion limit</b>	12,6 Vol %

## Vapour pressure

Values [hPa]	Values [kPa]	Values [atm]	@ °C	@ °F	Method
< 1	< 0,1	< 0,001	20	68	
1,8	0,18	0,002	50	122	

**Vapour density** 3,2 (Air = 1) @ 20 °C (68 °F)

## Relative density

# SAFETY DATA SHEET



1,3-BG (Industrial Quality)  
10010

Version / Revision 4.01

Values	@ °C	@ °F	Method
1,0035	20	68	DIN 51757
<b>Solubility</b>	miscible, in water, OECD 105		
<b>log Pow</b>	- 0,9 (measured), OECD 117		
<b>Autoignition temperature</b>	410 °C @ 1019 hPa		
<b>Method</b>	DIN 51794		
<b>Decomposition temperature</b>	No data available		
<b>Viscosity</b>	131,8 mPa*s @ 20 °C		
<b>Method</b>	DIN 51562, dynamic		
<b>Oxidizing properties</b>	Does not apply, substance is not oxidising. There are no chemical groups associated with oxidizing properties		
<b>Explosive properties</b>	Does not apply, substance is not explosive. There are no chemical groups associated with explosive properties		

## 9.2. Other information

<b>Molecular weight</b>	90,12
<b>Molecular formula</b>	C4 H10 O2
<b>Dissociation constant</b>	pKa 15,1 @ 25 °C (77 °F) OECD 112
<b>Refractive index</b>	1,440 @ 20 °C
<b>Surface tension</b>	72,6 mN/m (1 g/l @ 20°C (68°F)), OECD 115
<b>hygroscopic.</b>	

## SECTION 10: Stability and Reactivity

### 10.1. Reactivity

The reactivity of the product corresponds to the typical reactivity shown by the substance group as described in any text book on organic chemistry.

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

### 10.4. Conditions to avoid

Avoid contact with heat, sparks, open flame and static discharge. Avoid any source of ignition.

### 10.5. Incompatible materials

strong oxidizing agents.

### 10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

# SAFETY DATA SHEET



**1,3-BG (Industrial Quality)  
10010**

**Version / Revision** 4.01

**Likely routes of exposure** Ingestion, Inhalation, Eye contact, Skin contact

<b>Acute toxicity</b>				
<b>1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)</b>				
Routes of Exposure	Endpoint	Values	Species	Method
Oral	LD50	22800 mg/kg	rat, male	
Inhalative	LC0	292 mg/m <sup>3</sup>	rat, male	OECD 403

## **1,3-Butylene glycol (Butane-1,3-diol), CAS: 107-88-0**

### **Assessment**

Based on available data, the classification criteria are not met for:

Acute oral toxicity

Acute inhalation toxicity

STOT SE

For acute dermal toxicity, no data are available

<b>Irritation and corrosion</b>				
<b>1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)</b>				
Target Organ Effects	Species	Result	Method	
Skin	rabbit	No skin irritation		
Eyes	rabbit	Mild eye irritation		

## **1,3-Butylene glycol (Butane-1,3-diol), CAS: 107-88-0**

### **Assessment**

Based on available data, the classification criteria are not met for:

skin irritation/corrosion

eye irritation/corrosion

For respiratory irritation, no data are available

<b>Sensitization</b>				
<b>1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)</b>				
Target Organ Effects	Species	Evaluation	Method	
Skin	Human experience	not sensitizing	Patch-test	

## **1,3-Butylene glycol (Butane-1,3-diol), CAS: 107-88-0**

### **Assessment**

Based on available data, the classification criteria are not met for:

Skin sensitization

For respiratory sensitization, no data are available

<b>Subacute, subchronic and prolonged toxicity</b>				
<b>1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)</b>				
Type	Dose	Species	Method	
Subchronic toxicity	NOAEL: 6000 mg/kg/d	dog, male/female	Oral	90-day
Chronic toxicity	NOAEL: 5000 mg/kg/d	rat, male/female	Oral	two-year
Chronic toxicity	NOAEL: >= 750 mg/kg/d	dog, male/female	Oral	two-year

## **1,3-Butylene glycol (Butane-1,3-diol), CAS: 107-88-0**

### **Assessment**

Based on available data, the classification criteria are not met for:

STOT RE



# SAFETY DATA SHEET



**1,3-BG (Industrial Quality)  
10010**

**Version / Revision 4.01**

<b>Carcinogenicity, Mutagenicity, Reproductive toxicity</b>					
<b>1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)</b>					
Type	Dose	Species	Evaluation	Method	
Mutagenicity		rat, male/female	negative		in vivo
Reproductive toxicity	LOAEL 12000 mg/kg/d	rat		Oral	
Reproductive toxicity	NOAEL 5000 mg/kg/d	rat		Oral	
Developmental Toxicity	NOAEL 12000 mg/kg/d	rat		Oral	Maternal toxicity
Developmental Toxicity	NOAEL 12000 mg/kg/d	rat		Oral	Teratogenicity
Developmental Toxicity	LOAEL 5000 mg/kg/d	rat		Oral	Fetal toxicity
Developmental Toxicity	NOAEL 2500 mg/kg/d	rat		Oral	Fetal toxicity
Carcinogenicity	NOAEL 5000 mg/kg/d	rat, male/female		Oral	

## **1,3-Butylene glycol (Butane-1,3-diol), CAS: 107-88-0**

### **CMR Classification**

The available data on CMR properties are summarized in the table above. They do not indicate a classification into categories 1A or 1B

### **Evaluation**

Did not show carcinogenic, teratogenic or mutagenic effects in animal experiments

## **1,3-Butylene glycol (Butane-1,3-diol), CAS: 107-88-0**

### **Main symptoms**

cough.

### **Target Organ Systemic Toxicant - Single exposure**

Based on available data, the classification criteria are not met for:

STOT SE

### **Target Organ Systemic Toxicant - Repeated exposure**

Based on available data, the classification criteria are not met for:

STOT RE

### **Aspiration toxicity**

no data available

### **Note**

Special hazards or target organ effects are given as a generic warning, substance specific data is not available. Handle in accordance with good industrial hygiene and safety practice. Further details on substance data can be found in the registration dossier under the following link:

<http://echa.europa.eu/information-on-chemicals/registered-substances>.

## **SECTION 12: Ecological information**

### **12.1. Toxicity**

<b>Acute aquatic toxicity</b>			
<b>1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)</b>			
Species	Exposure time	Dose	Method
Daphnia magna (Water flea)	48h	EC50: > 1000 mg/l	OECD 202 read across
Desmodesmus subspicatus	72h	EC50: > 1070 mg/l	OECD 201

# SAFETY DATA SHEET



**1,3-BG (Industrial Quality)  
10010**

**Version / Revision 4.01**

		(Growth rate)	
Oryzias latipes (Medaka)	96h	LC50: > 100 mg/l	OECD 203 read across
Activated sludge (bacteriae)	3 h	EC20: > 100 mg/l	OECD 209

## Long term toxicity

### 1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)

Type	Species	Dose	Method	
Reproductive toxicity	Daphnia magna (Water flea)	EC50: > 85 mg/l/21d	OECD 202 read across	
Aquatic toxicity	Scenedesmus subspicatus	NOEC: 1070 mg/l (3d)	OECD 201	

## 12.2. Persistence and degradability

### 1,3-Butylene glycol (Butane-1,3-diol), CAS: 107-88-0

#### Biodegradation

81 % (29 d), activated sludge (domestic), aerobic, non-adapted, OECD 301 B.

#### Abiotic Degradation

### 1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)

Type	Result	Method
Hydrolysis	not expected	
Photolysis	Half-life (DT50): 27 h	calculated

## 12.3. Bioaccumulative potential

### 1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)

Type	Result	Method
log Pow	- 0,9	measured, OECD 117
BCF	No potential for bioaccumulation	

## 12.4. Mobility in soil

### 1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)

Type	Result	Method
Surface tension	72,6 mN/m (1 g/l @ 20°C (68°F))	OECD 115
Adsorption/Desorption	log Koc: 0	calculated
Distribution to environmental compartments	no data available	

## 12.5. Results of PBT and vPvB assessment

### 1,3-Butylene glycol (Butane-1,3-diol), CAS: 107-88-0

#### PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB)

## 12.6. Other adverse effects

### 1,3-Butylene glycol (Butane-1,3-diol), CAS: 107-88-0

# SAFETY DATA SHEET



1,3-BG (Industrial Quality)  
10010

Version / Revision 4.01

No data available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Product Information

Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal.

#### Uncleaned empty packaging

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

## SECTION 14: Transport information

### Section 14.1 - 14.6

#### ICAO-TI / IATA-DGR

Not restricted

#### IMDG

Not restricted

**14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code** not applicable

#### ADR/RID

Not restricted

## SECTION 15: Regulatory information

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

#### DI 2012/18/EU (Seveso III)

Category not subject

#### DI 1999/13/EC (VOC Guideline)

Component	Status
1,3-Butylene glycol (Butane-1,3-diol) CAS: 107-88-0	not subject

### International Inventories

1,3-Butylene glycol (Butane-1,3-diol), CAS: 107-88-0  
AICS (AU)

# SAFETY DATA SHEET



1,3-BG (Industrial Quality)  
10010

Version / Revision 4.01

DSL (CA)  
IECSC (CN)  
EC-No. 2035297 (EU)  
ENCS (2)-235 (JP)  
ISHL (2)-235 (JP)  
KECI KE-03787 (KR)  
INSQ (MX)  
PICCS (PH)  
TSCA (US)  
NZIoC (NZ)  
TCSI (TW)

## SECTION 16: Other information

### Abbreviations

A table of terms and abbreviations can be found under the following link:  
[http://echa.europa.eu/documents/10162/13632/information\\_requirements\\_r20\\_en.pdf](http://echa.europa.eu/documents/10162/13632/information_requirements_r20_en.pdf)

### Training advice

For effective first-aid, special training / education is needed.

### Sources of key data used to compile the datasheet

Information contained in this safety data sheet is based on OQ owned data and public sources deemed valid or acceptable. The absence of data elements required by OSHA, ANSI or Annex II, Regulation 1907/2006/EC indicates, that no data meeting these requirements is available.

### Further information for the safety data sheet

Changes against the previous version are marked by \*\*\*. Observe national and local legal requirements. For more information, other material safety data sheets or technical data sheets please consult the OQ homepage ([www.chemicals.oq.com](http://www.chemicals.oq.com)).

The annex is not required because the substance is not hazardous under REACH

### Disclaimer

**For industrial use only.** The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist. OQ makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards.

**End of Safety Data Sheet**