

SAFETY DATA SHEET



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

Version / Revision
Supersedes Version

5.01
5.00***

Revision Date
Issuing date

12-Feb-2021
12-Feb-2021

SECTION 1: Identification

1.1. Product identifier

Identification of the
substance/preparation

1,3-BG (Industrial Quality)

Chemical Name
CAS-No

1,3-Butylene glycol
107-88-0

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

Use of the Substance /
Preparation
Uses advised against

Intermediate
Monomer
None

1.3. Details of the supplier of the safety data sheet

Supplier

OQ Chemicals Corporation
15375 Memorial Drive
West Memorial Place I
Suite 300
Houston, TX 77079
USA
Phone +1 346 378 7300

Product Information

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

1.4. Emergency telephone number

Emergency telephone number NCEC +1 202 464 2554
available 24/7

SECTION 2: Hazards identification

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

Emergency telephone number
1 / 12

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SAFETY DATA SHEET



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

Version / Revision 5.01

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	Concentration (%)
1,3-Butylene glycol (Butane-1,3-diol)	107-88-0	> 99,5

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

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

Skin

Wash off immediately with plenty of water. 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.

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

Emergency telephone number
2 / 12

NCEC +1 202 464 2554
USA (A-US)

SAFETY DATA SHEET



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

Version / Revision 5.01

5.1. Extinguishing media

Suitable extinguishing media

foam, dry chemical, carbon dioxide (CO₂), 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 (CO₂)

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.

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

SAFETY DATA SHEET



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

Version / Revision 5.01

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

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).

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

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

SAFETY DATA SHEET



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

Version / Revision 5.01

be used in mechanical ventilation systems.

Individual protection measures, such as 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 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.

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

Suitable material	polyvinylchloride / nitrile rubber
Evaluation	according to EN 374: level 6
Glove thickness	approx 0,9 mm
Break through time	> 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 (vapor or mist). Equipment should conform to NIOSH.

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

Appearance	liquid
Colour	colourless

Emergency telephone number
5 / 12

NCEC +1 202 464 2554
USA (A-US)

SAFETY DATA SHEET



1,3-BG (Industrial Quality)
10010

Version / Revision

5.01

Odour weak
Odour threshold No data available
pH 6 - 9***
Melting point/range -71 °F (-57 °C)
Method DIN ISO 3016
Boiling point/range 408 °F (209 °C) @ 1 atm (101,3 kPa)
Method OECD 103
Flash point 239 °F (115 °C) @ 1 atm (101,3 kPa)
Method ISO 2719
Evaporation rate No data available
Flammability (solid, gas) Does not apply, the substance is a liquid
Lower explosion limit 1,9 Vol %
Upper explosion limit 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

Values	@ °C	@ °F	Method
1,0035	20	68	DIN 51757

Solubility miscible, in water, OECD 105

log Pow - 0,9 (measured) OECD 117

Autoignition temperature 770 °F (410 °C) @ 1019 hPa

Method DIN 51794

Decomposition temperature No data available

Viscosity 131,8 mPa*s @ 68 °F (20 °C)

Method DIN 51562, dynamic

9.2. Other information

Molecular weight 90,12

Molecular formula C4 H10 O2

Dissociation constant pKa 15,1 @ 25 °C (77 °F), OECD 112

Oxidizing properties Does not apply, substance is not oxidising. There are no chemical groups associated with oxidizing properties

Refractive Index 1,440 @ 68 °F (20 °C)

Explosive properties Does not apply, substance is not explosive. There are no chemical groups associated with explosive properties

Surface tension 72,6 mN/m (1 g/l @ 20°C (68°F)), OECD 115

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.

SAFETY DATA SHEET



1,3-BG (Industrial Quality)
10010

Version / Revision 5.01

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

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

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

Acute toxicity

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

Routes of Exposure	Endpoint	Values	Species	Method
Oral	LD50	22800 mg/kg	rat, male	
Inhalative	LC0	292 mg/m ³	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

Emergency telephone number
7 / 12

NCEC +1 202 464 2554
USA (A-US)

SAFETY DATA SHEET



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

Version / Revision 5.01

For acute dermal toxicity, no data are available

Irritation and corrosion				
1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)				
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

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

Subacute, subchronic and prolonged toxicity				
1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)				
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

Carcinogenicity, Mutagenicity, Reproductive toxicity					
1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)					
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	rat		Oral	

SAFETY DATA SHEET



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

Version / Revision 5.01

	mg/kg/d				
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

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

Acute aquatic toxicity			
1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)			
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 (Growth rate)	OECD 201
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	NOEC: 1070 mg/l	OECD 201

SAFETY DATA SHEET



1,3-BG (Industrial Quality)
10010

Version / Revision 5.01

	subspicatus	(3d)		
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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

No data available

SECTION 13: Disposal considerations

SAFETY DATA SHEET



1,3-BG (Industrial Quality)
10010

Version / Revision 5.01

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

D.O.T. (49CFR) Not restricted

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

SECTION 15: Regulatory information

Federal and State Regulations

Components of the product are listed in the quoted regulations. For details please refer to the regulations directly. This list is not exhaustive, please check for other applicable regulations.

Federal Regulations

This product is listed on the TSCA inventory

1,3-Butylene glycol (Butane-1,3-diol), CAS: 107-88-0
40CFR 63.100-.106, Table 1: Group II

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 5.01

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

Revision Date 12-Feb-2021
Issuing date 12-Feb-2021

Hazard Rating Systems

NFPA (National Fire Protection Association)

Health Hazard	1
Fire Hazard	1
Reactivity	0

HMIS (Hazardous Material Information System)

Health Hazard	1
Flammability	1
Physical Hazard	0

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).

The use of a comma in section 3 and section 7 to 12 is the same as a period.

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End of Safety Data Sheet