According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

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

1.1 Product identifier

Trade name : Glutaral / Benzodecinium Bromide Formulation

Product code : Fetant Gluben

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

Use of the Sub- : Veterinary product

stance/Mixture

Recommended restrictions

on use

Not applicable

1.3 Details of the supplier of the safety data sheet

Company : MSD

Walton Manor, Walton

MK7 7AJ Milton Keynes - United Kingdom

Telephone : +1-908-740-4000

E-mail address of person

responsible for the SDS

: EHSDATASTEWARD@msd.com

1.4 Emergency telephone number

+1-908-423-6000

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Flammable liquids, Category 3 H226: Flammable liquid and vapour.

Acute toxicity, Category 4 H302: Harmful if swallowed.

Acute toxicity, Category 4 H332: Harmful if inhaled.

Skin corrosion, Category 1 H314: Causes severe skin burns and eye damage.

Serious eye damage, Category 1 H318: Causes serious eye damage.

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

Respiratory sensitisation, Category 1 H334: May cause allergy or asthma symptoms or

breathing difficulties if inhaled.

Skin sensitisation, Category 1 H317: May cause an allergic skin reaction.

Specific target organ toxicity - single ex-

posure, Category 3

Short-term (acute) aquatic hazard, Cate-

gory 1

Long-term (chronic) aquatic hazard, Cat-

egory 2

H335: May cause respiratory irritation.

H400: Very toxic to aquatic life.

H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms :











Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.

H302 + H332 Harmful if swallowed or if inhaled.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H334 May cause allergy or asthma symptoms or breath-

ing difficulties if inhaled.

H335 May cause respiratory irritation.

H410 Very toxic to aquatic life with long lasting effects.

Supplemental Hazard

Statements

EUH071

Corrosive to the respiratory tract.

Precautionary statements : Prevention:

P210 Keep away from heat, hot surfaces, sparks, open

flames and other ignition sources. No smoking.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye

protection/ face protection.

Response:

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously

with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P342 + P311 If experiencing respiratory symptoms: Call a

POISON CENTER/ doctor.

P391 Collect spillage.

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

Hazardous components which must be listed on the label:

Benzodecinium bromide

Glutaraldehyde

2.3 Other hazards

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.

Vapours may form explosive mixture with air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Propan-2-ol	67-63-0 200-661-7 603-117-00-0	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	>= 10 - < 20
Glutaraldehyde	111-30-8 203-856-5 605-022-00-X	Acute Tox. 3; H301 Acute Tox. 2; H330 Skin Corr. 1B; H314 Eye Dam. 1; H318 Resp. Sens. 1; H334 Skin Sens. 1A; H317 STOT SE 3; H335 Aquatic Acute 1; H400 Aquatic Chronic 2; H411 M-Factor (Acute aquatic toxicity): 1 ——— specific concentration limit STOT SE 3; H335 0.5 - < 5 %	>= 10 - < 20
Benzodecinium bromide	7281-04-1 230-698-4	Acute Tox. 3; H301 Skin Corr. 1; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400	>= 10 - < 20

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025
4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

Aquatic Chronic 1; H410

M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : In the case of accident or if you feel unwell, seek medical ad-

vice immediately.

When symptoms persist or in all cases of doubt seek medical

advice.

Protection of first-aiders : First Aid responders should pay attention to self-protection,

and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

If inhaled : If inhaled, remove to fresh air.

If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

In case of skin contact : In case of contact, immediately flush skin with plenty of water

for at least 15 minutes while removing contaminated clothing

and shoes.

Get medical attention immediately. Wash clothing before reuse.

Thoroughly clean shoes before reuse.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water

for at least 15 minutes.

If easy to do, remove contact lens, if worn.

Get medical attention immediately.

If swallowed, DO NOT induce vomiting.

If vomiting occurs have person lean forward.

Call a physician or poison control centre immediately.

Rinse mouth thoroughly with water.

Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes digestive tract burns.

Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reac-

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

tive airways dysfunction syndrome).

Harmful if swallowed or if inhaled. May cause an allergic skin reaction. Causes serious eye damage.

May cause allergy or asthma symptoms or breathing difficul-

ties if inhaled.

May cause respiratory irritation.

Causes severe burns.

Corrosive to the respiratory tract.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray

Alcohol-resistant foam Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

media

High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-

fighting

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

fire.

Flash back possible over considerable distance. Vapours may form explosive mixtures with air.

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod: :

ucts

Carbon oxides

Nitrogen oxides (NOx) Bromine compounds

5.3 Advice for firefighters

Special protective equipment :

for firefighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment. Use water spray to cool unopened containers.

Remove undamaged containers from fire area if it is safe to do

SO.

Evacuate area.

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Remove all sources of ignition.

Use personal protective equipment.

Follow safe handling advice (see section 7) and personal pro-

tective equipment recommendations (see section 8).

6.2 Environmental precautions

Environmental precautions : Avoid release to the environment.

Prevent further leakage or spillage if safe to do so.

Prevent spreading over a wide area (e.g. by containment or oil

barriers).

Retain and dispose of contaminated wash water.

If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Non-sparking tools should be used.

Soak up with inert absorbent material.

Suppress (knock down) gases/vapours/mists with a water

spray jet.

For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absor-

bent.

Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to deter-

mine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding

certain local or national requirements.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures : See Engineering measures under EXPOSURE

CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust

ventilation.

Use explosion-proof electrical, ventilating and lighting equip-

ment.

Advice on safe handling : Do not get on skin or clothing.

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

Do not breathe mist or vapours.

Do not swallow. Do not get in eyes.

Wash skin thoroughly after handling.

Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment

Non-sparking tools should be used.

Keep container tightly closed.

Already sensitised individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitisers.

Keep away from heat, hot surfaces, sparks, open flames and

other ignition sources. No smoking.

Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product.

Take care to prevent spills, waste and minimize release to the

environment.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye

flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace.

Wash contaminated clothing before re-use.

The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the

use of administrative controls.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep

away from heat and sources of ignition.

Advice on common storage : Do not store with the following product types:

Strong oxidizing agents

Self-reactive substances and mixtures

Organic peroxides Flammable solids Pyrophoric liquids Pyrophoric solids

Self-heating substances and mixtures

Substances and mixtures, which in contact with water, emit

flammable gases Explosives

Gases

Very acutely toxic substances and mixtures

7.3 Specific end use(s)

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis		
Propan-2-ol	67-63-0	STEL	500 ppm 1,250 mg/m3	GB EH40		
		TWA	400 ppm	GB EH40		
	111 00 0		999 mg/m3	00 51140		
Glutaraldehyde	111-30-8	TWA	0.05 ppm 0.2 mg/m3	GB EH40		
	Further information: Capable of causing occupational asthma.					
		STEL	0.05 ppm 0.2 mg/m3	GB EH40		
	Further information: Capable of causing occupational asthma.					
		TWA	< 1 μg/m3 (OEB 5)	Internal		
Benzodecinium bromide	7281-04-1	TWA	>= 100 < 1000 μg/m3 (OEB 2)	Internal		

Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value
Glutaraldehyde	Workers	Inhalation	Long-term local ef- fects	0.21 mg/m3
	Workers	Inhalation	Acute local effects	0.42 mg/m3
	Workers	Skin contact	Long-term systemic effects	6.25 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0.07 mg/kg bw/day
Propan-2-ol	Workers	Inhalation	Long-term systemic effects	500 mg/m3
	Workers	Skin contact	Long-term systemic effects	888 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	89 mg/m3
	Consumers	Skin contact	Long-term systemic effects	319 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	26 mg/kg bw/day

Predicted No Effect Concentration (PNEC)

Substance name	Environmental Compartment	Value
Glutaraldehyde	Fresh water	0.003 mg/l
	Freshwater - intermittent	0.006 mg/l

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 26.03.2025

 4.0
 14.04.2025
 11517957-00004
 Date of first issue: 06.03.2025

	Marine water	0.00025 mg/l
	Sewage treatment plant	0.8 mg/l
	Fresh water sediment	0.091 mg/kg dry weight (d.w.)
	Marine sediment	0.009 mg/kg dry weight (d.w.)
	Soil	0.21 mg/kg dry weight (d.w.)
Propan-2-ol	Fresh water	140.9 mg/l
	Marine water	140.9 mg/l
	Intermittent use/release	140.9 mg/l
	Sewage treatment plant	2251 mg/l
	Fresh water sediment	552 mg/kg dry weight (d.w.)
	Marine sediment	552 mg/kg dry weight (d.w.)
	Soil	28 mg/kg dry weight (d.w.)
	Oral (Secondary Poisoning)	160 mg/kg food

8.2 Exposure controls

Engineering measures

The information below is intended for larger pilot/commercial-scale operations and manufacturing. For smaller scale, clinical, or pharmacy settings, site-specific internal risk assessment practices should be conducted to determine appropriate exposure control measures. The health hazard risks of handling this material are dependent on multiple factors, including but not limited to physical form and quantity handled. If applicable, use process enclosures, local exhaust ventilation (e.g., Biosafety Cabinet, Ventilated Balance Enclosures), or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels as low as reasonably achievable.

Use closed processing systems or containment technologies to control at source (e.g., glove boxes/isolators) and to prevent leakage of compounds into the workplace.

All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment. No open handling permitted.

Totally enclosed processes and materials transport systems are required.

Operations require the use of appropriate containment technology designed to prevent leakage of compounds into the workplace.

Use explosion-proof electrical, ventilating and lighting equipment.

Personal protective equipment

Eye/face protection : Wear safety glasses with side shields or goggles.

If the work environment or activity involves dusty conditions,

mists or aerosols, wear the appropriate goggles.

Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or

aerosols.

Hand protection

Material : Chemical-resistant gloves

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

Remarks : Consider double gloving. Take note that the product is flam-

mable, which may impact the selection of hand protection.

Skin and body protection : Work uniform or laboratory coat.

Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable

suits) to avoid exposed skin surfaces.

Use appropriate degowning techniques to remove potentially

contaminated clothing.

Respiratory protection : If adequate local exhaust ventilation is not available or expo-

sure assessment demonstrates exposures outside the rec-

ommended guidelines, use respiratory protection. Filter should conform to BS EN 14387

Filter type : Combined particulates and organic vapour type (A-P)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour : colourless, to, light yellow

Odour : No data available Odour Threshold : No data available

pH : 4.31

Melting point/freezing point : No data available

Initial boiling point and boiling

range

No data available

Flash point : 49.0 °C

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Flammability (liquids) : No data available

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower :

flammability limit

No data available

Vapour pressure : No data available

Relative vapour density : No data available

Relative density : No data available

Density : No data available

Solubility(ies)

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

Water solubility
Partition coefficient: n-

octanol/water

No data availableNot applicable

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

9.2 Other information

Molecular weight : No data available

Particle size : Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Flammable liquid and vapour.

Vapours may form explosive mixture with air. Can react with strong oxidizing agents.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of:

of : ir

exposure

Inhalation Skin contact Ingestion

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

Eye contact

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity : Acute toxicity estimate: 480.73 mg/kg

Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 2.33 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: Calculation method

Components:

Propan-2-ol:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 25 mg/l

Exposure time: 6 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Glutaraldehyde:

Acute oral toxicity : LD50 (Rat, female): 77 mg/kg

Acute inhalation toxicity : LC50 (Rat, female): 0.28 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: Corrosive to the respiratory tract.

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Benzodecinium bromide:

Acute oral toxicity : LD50 (Rat): 230 mg/kg

Acute inhalation toxicity : Assessment: Corrosive to the respiratory tract.

Acute dermal toxicity : LD50 (Rabbit): > 2,000 - 5,000 mg/kg

Remarks: Based on data from similar materials

Skin corrosion/irritation

Causes severe burns.

Components:

Propan-2-ol:

Species : Rabbit

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

Result : No skin irritation

Glutaraldehyde:

Species : Rabbit

Method : OECD Test Guideline 404

Result : Corrosive after 3 minutes to 1 hour of exposure

Benzodecinium bromide:

Species : Rabbit

Result : Corrosive after 4 hours or less of exposure Remarks : Based on data from similar materials

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

Propan-2-ol:

Species : Rabbit

Result : Irritation to eyes, reversing within 21 days

Glutaraldehyde:

Species : Rabbit Method : Draize Test

Result : Irreversible effects on the eye

Benzodecinium bromide:

Species : Rabbit

Result : Irreversible effects on the eye Remarks : Based on data from similar materials

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Components:

Propan-2-ol:

Test Type : Buehler Test Exposure routes : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Result : negative

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

Glutaraldehyde:

Test Type : Local lymph node assay (LLNA)

Exposure routes : Skin contact Species : Mouse Result : positive

Assessment : Probability or evidence of high skin sensitisation rate in hu-

mans

Exposure routes : Inhalation Species : Humans Result : positive

Assessment : May cause sensitisation by inhalation.

Benzodecinium bromide:

Test Type : Buehler Test Exposure routes : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Result : negative

Remarks : Based on data from similar materials

Germ cell mutagenicity

Not classified based on available information.

Components:

Propan-2-ol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Mouse

Application Route: Intraperitoneal injection

Result: negative

Glutaraldehyde:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: positive

Test Type: In vitro mammalian cell gene mutation test

Result: positive

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 14.04.2025 11517957-00004 Date of first issue: 06.03.2025 4.0

Result: positive

Genotoxicity in vivo Test Type: Mammalian erythrocyte micronucleus test (in vivo

> cytogenetic assay) Species: Mouse

Application Route: Intraperitoneal injection

Result: negative

Test Type: Unscheduled DNA synthesis (UDS) test with

mammalian liver cells in vivo

Species: Rat

Application Route: Ingestion Method: OECD Test Guideline 486

Result: negative

Benzodecinium bromide:

Genotoxicity in vitro Test Type: Bacterial reverse mutation assay (AMES)

Method: OECD Test Guideline 471

Result: negative

Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

Remarks: Based on data from similar materials

Genotoxicity in vivo Test Type: Mammalian erythrocyte micronucleus test (in vivo

> cytogenetic assay) Species: Mouse

Application Route: Ingestion Method: OECD Test Guideline 474

Result: negative

Remarks: Based on data from similar materials

Carcinogenicity

Not classified based on available information.

Components:

Propan-2-ol:

Species

Application Route inhalation (vapour)

Exposure time 104 weeks

Method **OECD Test Guideline 451**

Result negative

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

Glutaraldehyde:

Species : Rat
Application Route : Ingestion
Exposure time : 2 Years
Result : negative

Species : Rat

Application Route : inhalation (vapour)

Exposure time : 2 Years Result : negative

Benzodecinium bromide:

Species : Rat
Application Route : Ingestion
Exposure time : 2 Years

Method : OECD Test Guideline 453

Result : negative

Remarks : Based on data from similar materials

Reproductive toxicity

Not classified based on available information.

Components:

Propan-2-ol:

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion

Result: negative

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: Ingestion

Result: negative

Glutaraldehyde:

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion
Method: OECD Test Guideline 416

Result: negative

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: Ingestion Method: OECD Test Guideline 414

Result: negative

Benzodecinium bromide:

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion Method: OECD Test Guideline 416

Result: negative

Remarks: Based on data from similar materials

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rabbit

Application Route: Ingestion Method: OECD Test Guideline 414

Result: negative

Remarks: Based on data from similar materials

STOT - single exposure

May cause respiratory irritation. Corrosive to the respiratory tract.

Components:

Propan-2-ol:

Assessment : May cause drowsiness or dizziness.

Glutaraldehyde:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

Not classified based on available information.

Components:

Glutaraldehyde:

Assessment : No significant health effects observed in animals at concentra-

tions of 100 mg/kg bw or less.

Repeated dose toxicity

Components:

Propan-2-ol:

Species : Rat NOAEL : 12.5 mg/l

Application Route : inhalation (vapour)

Exposure time : 104 Weeks

Glutaraldehyde:

Species : Rat, male NOAEL : 15 mg/kg Application Route : Ingestion

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

Exposure time : 13 Weeks

Method : OECD Test Guideline 408

Species : Rat, male NOAEL : 0.0005 mg/l

Application Route : inhalation (vapour)

Exposure time : 13 Weeks

Species : Rat

NOAEL : >= 150 mg/kg
Application Route : Skin contact
Exposure time : 13 Weeks

Method : OECD Test Guideline 411

Aspiration toxicity

Not classified based on available information.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Propan-2-ol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 9,640 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 10,000 mg/l

Exposure time: 24 h

Toxicity to microorganisms : EC50 (Pseudomonas putida): > 1,050 mg/l

Exposure time: 16 h

Glutaraldehyde:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 10 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Crassostrea virginica (eastern oyster)): 0.78 mg/l

Exposure time: 96 h

Toxicity to algae/aquatic

plants

ErC50 (Desmodesmus subspicatus (green algae)): 0.6 mg/l

Exposure time: 72 h

NOEC (Desmodesmus subspicatus (green algae)): 0.025 mg/l

Exposure time: 72 h

M-Factor (Acute aquatic tox- :

icity)

: '

Toxicity to microorganisms : EC10 (Pseudomonas putida): 4.4 mg/l

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

> Exposure time: 17 h Method: DIN 38 412 Part 8

Toxicity to fish (Chronic tox-

icity)

NOEC: 1.6 mg/l Exposure time: 97 d

Species: Oncorhynchus mykiss (rainbow trout)

Method: OECD Test Guideline 210

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC: 0.13 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

Benzodecinium bromide:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 0.1 - 1 mg/l

Exposure time: 96 h

Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 0.01 - 0.1 mg/l

Exposure time: 48 h

Method: Directive 67/548/EEC, Annex V, C.2. Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.01

- 0.1 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

EC10 (Pseudokirchneriella subcapitata (green algae)): >

0.001 - 0.01 mg/l Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

M-Factor (Acute aquatic tox- :

icity)

10

Toxicity to microorganisms : EC50 : > 10 - 100 mg/l

Exposure time: 30 min

Method: OECD Test Guideline 209

Remarks: Based on data from similar materials

Toxicity to fish (Chronic tox-

icity)

NOEC: > 0.01 - 0.1 mg/l

Exposure time: 28 d

Species: Pimephales promelas (fathead minnow) Remarks: Based on data from similar materials

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC: > 0.01 - 0.1 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

Method: OECD Test Guideline 211

Remarks: Based on data from similar materials

M-Factor (Chronic aquatic

toxicity)

: 1

12.2 Persistence and degradability

Components:

Propan-2-ol:

Biodegradability : Result: rapidly degradable

BOD/COD : BOD: 1,19 (BOD5)

COD: 2,23 BOD/COD: 53 %

Glutaraldehyde:

Biodegradability : Result: Readily biodegradable.

Method: OECD Test Guideline 301A

Benzodecinium bromide:

Biodegradability : Result: Readily biodegradable.

Remarks: Based on data from similar materials

12.3 Bioaccumulative potential

Components:

Propan-2-ol:

Partition coefficient: n-

: log Pow: 0.05

octanol/water

Glutaraldehyde:

Partition coefficient: n- : log Pow: < 4

octanol/water Remarks: Expert judgement

Benzodecinium bromide:

Partition coefficient: n- : log Pow: < 4

octanol/water Remarks: Expert judgement

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : 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

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

0.1% or higher.

12.6 Other adverse effects

Product:

Endocrine disrupting poten-

tial

This substance/mixture does not contain components considered to have endocrine disrupting properties for environment

according to UK REACH Article 57(f).

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.

According to the European Waste Catalogue, Waste Codes

are not product specific, but application specific.

Waste codes should be assigned by the user, preferably in

discussion with the waste disposal authorities.

Do not dispose of waste into sewer.

Contaminated packaging : Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADN : UN 2920
ADR : UN 2920
RID : UN 2920
IMDG : UN 2920
IATA : UN 2920

14.2 UN proper shipping name

ADN : CORROSIVE LIQUID, FLAMMABLE, N.O.S.

(Glutaraldehyde, Propan-2-ol)

ADR : CORROSIVE LIQUID, FLAMMABLE, N.O.S.

(Glutaraldehyde, Propan-2-ol)

RID : CORROSIVE LIQUID, FLAMMABLE, N.O.S.

(Glutaraldehyde, Propan-2-ol)

IMDG : CORROSIVE LIQUID, FLAMMABLE, N.O.S.

(Glutaraldehyde, Propan-2-ol, Benzodecinium bromide)

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

IATA : Corrosive liquid, flammable, n.o.s.

(Glutaraldehyde, Propan-2-ol)

14.3 Transport hazard class(es)

		Class	Subsidiary risks
ADN	:	8	3
ADR :	:	8	3
RID :	:	8	3
IMDG :	:	8	3
IATA :	:	8	3

14.4 Packing group

ADN

Packing group : II
Classification Code : CF1
Hazard Identification Number : 83
Labels : 8 (3)

ADR

Packing group : II
Classification Code : CF1
Hazard Identification Number : 83
Labels : 8 (3)
Tunnel restriction code : (D/E)

RID

Packing group : II
Classification Code : CF1
Hazard Identification Number : 83
Labels : 8 (3)

IMDG

Packing group : II Labels : 8 (3) EmS Code : F-E, S-C

IATA (Cargo)

Packing instruction (cargo : 855

aircraft)

Packing instruction (LQ) : Y840
Packing group : II

Labels : Corrosive, Flammable Liquids

IATA (Passenger)

Packing instruction (passen: 851

ger aircraft)

Packing instruction (LQ) : Y840 Packing group : II

Labels : Corrosive, Flammable Liquids

14.5 Environmental hazards

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17) : Conditions of restriction for the fol-

lowing entries should be considered:

Number on list 3

Substance(s) or mixture(s) are listed here according to their appearance in the regulation, irrespective of their use/purpose or the conditions of the restriction. Please refer to the conditions in corresponding Regulation to determine whether an entry is applicable to the placing on the market or

not. Not applicable

UK REACH Candidate list of substances of very high

concern (SVHC) for Authorisation

The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Brit-

ain)

Regulation (EU) No 2024/590 on substances that de-

plete the ozone layer

UK REACH List of substances subject to authorisation

(Annex XIV)

GB Export and import of hazardous chemicals - Prior

Informed Consent (PIC) Regulation

Control of Major Accident Hazards Regulations 2015 (COMAH)

Not applicable

Not applicable

Not applicable

Not applicable

23 / 26

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

Quantity 1 Quantity 2

E1 ENVIRONMENTAL 100 t 200 t

HAZARDS

P5c FLAMMABLE LIQUIDS 5,000 t 50,000 t

Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

The components of this product are reported in the following inventories:

AICS : not determined

DSL : not determined

IECSC : not determined

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Other information : Items where changes have been made to the previous version

are highlighted in the body of this document by two vertical

lines.

Full text of H-Statements

H225 : Highly flammable liquid and vapour.

H301 : Toxic if swallowed.

H314 : Causes severe skin burns and eye damage.

H317 : May cause an allergic skin reaction.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.

H330 : Fatal if inhaled.

H334 : May cause allergy or asthma symptoms or breathing difficul-

ties if inhaled.

H335 : May cause respiratory irritation. H336 : May cause drowsiness or dizziness.

H400 : Very toxic to aquatic life.

H410
H411
Very toxic to aquatic life with long lasting effects.
Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox. : Acute toxicity

Aquatic Acute : Short-term (acute) aquatic hazard
Aquatic Chronic : Long-term (chronic) aquatic hazard

Eye Dam. : Serious eye damage

Eye Irrit. : Eye irritation

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version Revision Date: SDS Number: Date of last issue: 26.03.2025 4.0 14.04.2025 11517957-00004 Date of first issue: 06.03.2025

Flam. Liq. : Flammable liquids Resp. Sens. : Respiratory sensitisation

Skin Corr. : Skin corrosion Skin Sens. : Skin sensitisation

STOT SE : Specific target organ toxicity - single exposure GB EH40 : UK. EH40 WEL - Workplace Exposure Limits

GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA -European Chemicals Agency: EC-Number - European Community number: ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI -Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

Sources of key data used to : compile the Safety Data

Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

Sheet cy, http://echa.europa.eu/

Classification of the mixture: Classification procedure:

Flam. Liq. 3 H226 Based on product data or assessment

Acute Tox. 4 H302 Calculation method

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



Glutaral / Benzodecinium Bromide Formulation

Version 4.0	Revision Date: 14.04.2025	SDS Number: 11517957-00004	Date of last issue: 26.03.2025 Date of first issue: 06.03.2025	
Acute 7	Гох. 4	H332	Calculation method	
Skin Co	orr. 1	H314	Calculation method	
Eye Da	am. 1	H318	Calculation method	
Resp. S	Sens. 1	H334	Calculation method	
Skin Se	ens. 1	H317	Calculation method	
STOT	SE 3	H335	Calculation method	
Aquatio	c Acute 1	H400	Calculation method	
Aquatio	Chronic 2	H411	Calculation method	

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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 is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

GB / EN