

Glutaral / Benzodecinium Bromide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 26.03.2025
4.0	14.04.2025	11517933-00004	Date of first issue: 06.03.2025

SECTION 1. IDENTIFICATION

Product identifier : Glutaral / Benzodecinium Bromide Formulation

Product code : Fetant Gluben

Manufacturer or supplier's details

Company : MSD

Address : Rua Coronel Bento Soares, 530
Cruzeiro - Sao Paulo - Brazil CEP 12730-340

Telephone : 908-740-4000

Emergency telephone : 1-908-423-6000

E-mail address : EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product

Restrictions on use : Not applicable

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification in accordance with ABNT NBR 14725 Standard**

Flammable liquids : Category 3

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Skin corrosion : Category 1

Serious eye damage : Category 1

Respiratory sensitization : Category 1

Skin sensitization : Category 1

Specific target organ toxicity - single exposure : Category 3

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 2

**Glutaral / Benzodecinium Bromide Formula-
tion**

Version	Revision Date:	SDS Number:	Date of last issue: 26.03.2025
4.0	14.04.2025	11517933-00004	Date of first issue: 06.03.2025

GHS label elements in accordance with ABNT NBR 14725 Standard

Hazard pictograms

:



Signal Word

: Danger

Hazard Statements

: H226 Flammable liquid and vapor.
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 breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements

:

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331 + P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/ doctor.
P303 + P361 + P353 + P310 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER/ doctor.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
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.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.
P391 Collect spillage.

Storage:

P405 Store locked up.

Glutaral / Benzodecinium Bromide Formula- tion

Version 4.0 Revision Date: 14.04.2025 SDS Number: 11517933-00004 Date of last issue: 26.03.2025
Date of first issue: 06.03.2025

Other hazards which do not result in classification

Vapors may form explosive mixture with air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
Propan-2-ol	67-63-0	Flam. Liq., 2 Eye Irrit., 2A STOT SE, 3	>= 10 -< 20
Glutaraldehyde	111-30-8	Acute Tox. (Oral), 3 Acute Tox. (Inhalation), 2 Acute Tox. (Dermal), 5 Skin Corr., 1B Eye Dam., 1 Resp. Sens., 1 Skin Sens., 1A STOT SE, 3 Aquatic Acute, 1 Aquatic Chronic, 2	>= 10 -< 20
Benzodecinium bromide	7281-04-1	Acute Tox. (Oral), 3 Acute Tox. (Dermal), 5 Skin Corr., 1 Eye Dam., 1 Aquatic Acute, 1 Aquatic Chronic, 1	>= 10 -< 20

SECTION 4. FIRST AID MEASURES

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.
- 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.

Glutaral / Benzodecinium Bromide Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 26.03.2025
4.0	14.04.2025	11517933-00004	Date of first issue: 06.03.2025

- | | | |
|---|---|---|
| If swallowed | : | If swallowed, DO NOT induce vomiting.
If vomiting occurs have person lean forward.
Call a physician or poison control center immediately.
Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person. |
| Most important symptoms and effects, both acute and delayed | : | Causes digestive tract burns.
Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive 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 difficulties if inhaled.
May cause respiratory irritation.
Causes severe burns. |
| 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). |
| Notes to physician | : | Treat symptomatically and supportively. |
-

SECTION 5. FIRE-FIGHTING MEASURES

- | | | |
|--|---|---|
| Suitable extinguishing media | : | Water spray
Alcohol-resistant foam
Carbon dioxide (CO ₂)
Dry chemical |
| Unsuitable extinguishing media | : | High volume water jet |
| 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.
Vapors may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health. |
| Hazardous combustion products | : | Carbon oxides
Nitrogen oxides (NO _x)
Bromine compounds |
| Specific extinguishing methods | : | Use extinguishing measures that are appropriate to local circumstances 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. |
| Special protective equipment for fire-fighters | : | In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment. |
-

SECTION 6. ACCIDENTAL RELEASE MEASURES

**Glutaral / Benzodecinium Bromide Formula-
tion**

Version	Revision Date:	SDS Number:	Date of last issue: 26.03.2025
4.0	14.04.2025	11517933-00004	Date of first issue: 06.03.2025

-
- | | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Remove all sources of ignition.
Use personal protective equipment.
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8). |
| 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.
Local authorities should be advised if significant spillages cannot be contained. |
| Methods and materials for containment and cleaning up | : | Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapors/mists with a water spray jet.
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
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 determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements. |

SECTION 7. HANDLING AND STORAGE

- | | | |
|-------------------------|---|--|
| 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 equipment. |
| Advice on safe handling | : | Do not get on skin or clothing.
Do not breathe mist or vapors.
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 sensitized individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitizers. |

Glutaral / Benzodecinium Bromide Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 26.03.2025
4.0	14.04.2025	11517933-00004	Date of first issue: 06.03.2025

- 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.
- Conditions for safe storage** :
- 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.
 - Keep in properly labeled 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.
- Materials to avoid** :
- 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

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Propan-2-ol	67-63-0	LT	310 ppm 765 mg/m ³	BR OEL
	Further information: Absorption through the skin, Degree of harmfulness: medium			
		TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
Glutaraldehyde	111-30-8	TWA	< 1 µg/m ³ (OEB 5)	Internal

Glutaral / Benzodecinium Bromide Formula- tion

Version 4.0 Revision Date: 14.04.2025 SDS Number: 11517933-00004 Date of last issue: 26.03.2025
Date of first issue: 06.03.2025

		C	0,05 ppm	ACGIH
Benzodecinium bromide	7281-04-1	TWA	$\geq 100 < 1000$ $\mu\text{g}/\text{m}^3$ (OEB 2)	Internal

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam-pling time	Permissible concentra-tion	Basis
Propan-2-ol	67-63-0	Acetone	Urine	End of workday at end of work-week	40 mg/l	BR BEI
		Acetone	Urine	End of shift at end of work-week	40 mg/l	ACGIH BEI

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

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Combined particulates and organic vapor type

Hand protection

**Glutaral / Benzodecinium Bromide Formula-
tion**

Version 4.0	Revision Date: 14.04.2025	SDS Number: 11517933-00004	Date of last issue: 26.03.2025 Date of first issue: 06.03.2025
----------------	------------------------------	-------------------------------	---

Material	:	Chemical-resistant gloves
Remarks	:	Consider double gloving. Take note that the product is flammable, which may impact the selection of hand protection.
Eye 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.
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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Color	:	colorless, to, light yellow
Odor	:	No data available
Odor 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
Vapor pressure	:	No data available
Relative vapor density	:	No data available

**Glutaral / Benzodecinium Bromide Formula-
tion**

Version 4.0	Revision Date: 14.04.2025	SDS Number: 11517933-00004	Date of last issue: 26.03.2025 Date of first issue: 06.03.2025
----------------	------------------------------	-------------------------------	---

Relative density	:	No data available
Density	:	No data available
Solubility(ies) Water solubility	:	No data available
Partition coefficient: n- octanol/water	:	Not applicable
Autoignition 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.
Molecular weight	:	No data available
Particle characteristics Particle size	:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reac- tions	:	Flammable liquid and vapor. Vapors may form explosive mixture with air. Can react with strong oxidizing agents.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation Skin contact Ingestion Eye contact
---	---	--

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity	:	Acute toxicity estimate: 480,73 mg/kg
---------------------	---	---------------------------------------

**Glutaral / Benzodecinium Bromide Formula-
tion**

Version 4.0	Revision Date: 14.04.2025	SDS Number: 11517933-00004	Date of last issue: 26.03.2025 Date of first issue: 06.03.2025
----------------	------------------------------	-------------------------------	---

Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 2,33 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 5.000 mg/kg
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: vapor

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
Result : No skin irritation

Glutaraldehyde:

Species : Rabbit
Method : OECD Test Guideline 404

**Glutaral / Benzodecinium Bromide Formula-
tion**

Version	Revision Date:	SDS Number:	Date of last issue: 26.03.2025
4.0	14.04.2025	11517933-00004	Date of first issue: 06.03.2025

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
Result : Irreversible effects on the eye
Method : Draize Test

Benzodecinium bromide:

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

Respiratory or skin sensitization**Skin sensitization**

May cause an allergic skin reaction.

Respiratory sensitization

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

Components:**Propan-2-ol:**

Test Type : Buehler Test
Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : negative

Glutaraldehyde:

Test Type : Local lymph node assay (LLNA)
Routes of exposure : Skin contact
Species : Mouse
Result : positive

Assessment : Probability or evidence of high skin sensitization rate in

Glutaral / Benzodecinium Bromide Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 26.03.2025
4.0	14.04.2025	11517933-00004	Date of first issue: 06.03.2025

humans

Routes of exposure : Inhalation
 Species : Humans
 Result : positive

Assessment : May cause sensitization by inhalation.

Benzodecinium bromide:

Test Type : Buehler Test
 Routes of exposure : 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
 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

**Glutaral / Benzodecinium Bromide Formula-
tion**

Version	Revision Date:	SDS Number:	Date of last issue: 26.03.2025
4.0	14.04.2025	11517933-00004	Date of first issue: 06.03.2025

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 : Rat
Application Route : inhalation (vapor)
Exposure time : 104 weeks
Method : OECD Test Guideline 451
Result : negative

Glutaraldehyde:

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

Species : Rat
Application Route : inhalation (vapor)
Exposure time : 2 Years
Result : negative

**Glutaral / Benzodecinium Bromide Formula-
tion**

Version	Revision Date:	SDS Number:	Date of last issue: 26.03.2025
4.0	14.04.2025	11517933-00004	Date of first issue: 06.03.2025

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 fetal development	:	Test Type: Embryo-fetal 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 fetal development	:	Test Type: Embryo-fetal development Species: Rat Application Route: Ingestion Method: OECD Test Guideline 414 Result: negative
------------------------------	---	--

Benzodecinium bromide:

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 fetal development	:	Test Type: Embryo-fetal development Species: Rabbit Application Route: Ingestion Method: OECD Test Guideline 414 Result: negative
------------------------------	---	---

**Glutaral / Benzodecinium Bromide Formula-
tion**

Version	Revision Date:	SDS Number:	Date of last issue: 26.03.2025
4.0	14.04.2025	11517933-00004	Date of first issue: 06.03.2025

Remarks: Based on data from similar materials

STOT-single exposure

May cause respiratory irritation.

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 concentrations of 100 mg/kg bw or less.

Repeated dose toxicity**Components:****Propan-2-ol:**

Species	: Rat
NOAEL	: 12,5 mg/l
Application Route	: inhalation (vapor)
Exposure time	: 104 Weeks

Glutaraldehyde:

Species	: Rat, male
NOAEL	: 15 mg/kg
Application Route	: Ingestion
Exposure time	: 13 Weeks
Method	: OECD Test Guideline 408

Species	: Rat, male
NOAEL	: 0,0005 mg/l
Application Route	: inhalation (vapor)
Exposure time	: 13 Weeks

Species	: Rat
NOAEL	: >= 150 mg/kg
Application Route	: Skin contact
Exposure time	: 13 Weeks
Method	: OECD Test Guideline 411

Glutaral / Benzodecinium Bromide Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 26.03.2025
4.0	14.04.2025	11517933-00004	Date of first issue: 06.03.2025

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

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 toxicity)	:	1
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 1,6 mg/l Exposure time: 97 d Method: OECD Test Guideline 210
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0,13 mg/l Exposure time: 21 d Method: OECD Test Guideline 211
Toxicity to microorganisms	:	EC10 (Pseudomonas putida): 4,4 mg/l Exposure time: 17 h Method: DIN 38 412 Part 8

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	:	EC50 (Daphnia magna (Water flea)): > 0,01 - 0,1 mg/l

Glutaral / Benzodecinium Bromide Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 26.03.2025
4.0	14.04.2025	11517933-00004	Date of first issue: 06.03.2025

aquatic invertebrates		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 toxicity)	:	10
Toxicity to fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): > 0,01 - 0,1 mg/l Exposure time: 28 d Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): > 0,01 - 0,1 mg/l Exposure time: 21 d Method: OECD Test Guideline 211 Remarks: Based on data from similar materials
M-Factor (Chronic aquatic toxicity)	:	1
Toxicity to microorganisms	:	EC50: > 10 - 100 mg/l Exposure time: 30 min Method: OECD Test Guideline 209 Remarks: Based on data from similar materials

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.
------------------	---	--------------------------------

**Glutaral / Benzodecinium Bromide Formula-
tion**

Version 4.0	Revision Date: 14.04.2025	SDS Number: 11517933-00004	Date of last issue: 26.03.2025 Date of first issue: 06.03.2025
----------------	------------------------------	-------------------------------	---

Remarks: Based on data from similar materials

Bioaccumulative potential**Components:****Propan-2-ol:**

Partition coefficient: n-octanol/water : log Pow: 0,05

Glutaraldehyde:Partition coefficient: n-octanol/water : log Pow: < 4
Remarks: Expert judgment**Benzodecinium bromide:**Partition coefficient: n-octanol/water : log Pow: < 4
Remarks: Expert judgment**Mobility in soil**

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues	: Do not dispose of waste into sewer. Dispose of in accordance with local regulations.
Contaminated packaging	: Empty containers should be taken to an approved waste handling 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**International Regulations****UNRTDG**

UN number	: UN 2920
Proper shipping name	: CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Glutaraldehyde, Propan-2-ol)
Class	: 8
Subsidiary risk	: 3
Packing group	: II
Labels	: 8 (3)
Environmentally hazardous	: yes

**Glutaral / Benzodecinium Bromide Formula-
tion**

Version	Revision Date:	SDS Number:	Date of last issue: 26.03.2025
4.0	14.04.2025	11517933-00004	Date of first issue: 06.03.2025

IATA-DGR

UN/ID No.	: UN 2920
Proper shipping name	: Corrosive liquid, flammable, n.o.s. (Glutaraldehyde, Propan-2-ol)
Class	: 8
Subsidiary risk	: 3
Packing group	: II
Labels	: Corrosive, Flammable Liquids
Packing instruction (cargo aircraft)	: 855
Packing instruction (passenger aircraft)	: 851

IMDG-Code

UN number	: UN 2920
Proper shipping name	: CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Glutaraldehyde, Propan-2-ol, Benzodecinium bromide)
Class	: 8
Subsidiary risk	: 3
Packing group	: II
Labels	: 8 (3)
EmS Code	: F-E, S-C
Marine pollutant	: yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation**ANTT**

UN number	: UN 2920
Proper shipping name	: CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Glutaraldehyde, Propan-2-ol)
Class	: 8
Subsidiary risk	: 3
Packing group	: II
Labels	: 8 (3)
Hazard Identification Number	: 83

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.

SECTION 15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture**

National List of Carcinogenic Agents for Humans - (LINACH)	: Not applicable
--	------------------

Brazil. List of chemicals controlled by the Federal Police	: Propan-2-ol
--	---------------

**Glutaral / Benzodecinium Bromide Formula-
tion**

Version	Revision Date:	SDS Number:	Date of last issue: 26.03.2025
4.0	14.04.2025	11517933-00004	Date of first issue: 06.03.2025

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

AICS	:	not determined
DSL	:	not determined
IECSC	:	not determined

SECTION 16. OTHER INFORMATION

Revision Date	:	14.04.2025
Date format	:	dd.mm.yyyy

Further information

Sources of key data used to compile the Material Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
--	---	---

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 other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
BR BEI	:	Brazil. NR7. Parameters for Biological Control of Occupational Exposure to Some Chemical Agents
BR OEL	:	Brazil. NR 15 - Unhealthy activities and operations
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
ACGIH / C	:	Ceiling limit
BR OEL / LT	:	Up to 48 hours /week

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect

**Glutaral / Benzodecinium Bromide Formula-
tion**

Version	Revision Date:	SDS Number:	Date of last issue: 26.03.2025
4.0	14.04.2025	11517933-00004	Date of first issue: 06.03.2025

Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

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.

BR / Z8