

SAFETY DATA SHEET

Review Date 06/21/2013

Revision Date 05/22/2012

1 Identification of the Substance/Mixture and Company

Product Name: BFS Buffered Formalin – RS4065**Product Description:** Histology Tissue Fixative**Supplier:**

Avantik

19 Chapin Road - Building C

Pine Brook, NJ 07058

USA

(800) 783-9424

Emergency Telephone Number: Infotrac (800) 535-5053 (24 hours)

2 Hazards Identification

Classification of the substance or mixture

GHS08 Health hazard

Muta. 2 H341 Suspected of causing genetic defects.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Acute Tox. 5 H333 May be harmful if inhaled.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xn; Harmful

R20-68: Harmful by inhalation. Possible risk of irreversible effects.



Xi; Irritant

R36/38: Irritating to eyes and skin.



Xi; Sensitizing

R43: May cause sensitisation by skin contact.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of international guidelines.

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Classification system:

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

Label elements**Labeling according to EU guidelines:**

The product has been classified and marked in accordance with directives on hazardous materials.

Code letter and hazard designation of product:

Harmful

Hazard-determining components of labeling:

glyoxal

Risk phrases:

- 20 Harmful by inhalation.
- 36/38 Irritating to eyes and skin.
- 43 May cause sensitisation by skin contact.
- 68 Possible risk of irreversible effects.

Safety phrases:

- 2 Keep out of the reach of children.
- 36/37 Wear suitable protective clothing and gloves.
- 46 If swallowed, seek medical advice immediately and show this container or label.
- 56 Dispose of this material and its container to hazardous or special waste collection point.

Classification system:**NFPA ratings (scale 0 - 4)**

Health = 2

Fire = 1

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = 2

Fire = 1

Reactivity = 0

Other hazards**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

3 Composition

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

CAS: 107-22-2	glyoxal	<25%
EINECS: 203-474-9	☠ Muta. 2, H341; ☠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	

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CAS: 107-21-1 EINECS: 203-473-3	ethanediol ⚠ Acute Tox. 4, H302	<10%
CAS: 64-17-5 EINECS: 200-578-6	ethanol 🔥 Flam. Liq. 2, H225	<10%

4 First Aid Measures

Description of first aid measures

General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: If symptoms persist consult doctor.

Information for doctor:

Most important symptoms and effects, both acute and delayed: No further relevant information available.

Indication of any immediate medical attention and special treatment needed:

No further relevant information available.

5 Firefighting Measures

Extinguishing media

Suitable extinguishing agents: Use fire fighting measures that suit the environment.

Special hazards arising from the substance or mixture: No further relevant information available.

Advice for firefighters

Protective equipment: Mouth respiratory protective device.

6 Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Not required.

Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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7 Handling and Storage

Handling:

Precautions for safe handling:

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about protection against explosions and fires: No special measures required.

Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep receptacle tightly sealed.

Specific end use(s): No further relevant information available.

8 Exposure Controls/Personal Protection

Additional information about design of technical systems: No further data; see item 7.

Control parameters

Components with limit values that require monitoring at the workplace:

107-22-2 glyoxal

TLV	0.1* mg/m ³ SEN;*as inhalable fraction and vapor
WEEL	0.1 mg/m ³ DSEN; (H)

107-21-1 ethanediol

TLV	Short-term value: C 100 mg/m ³ H
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64-17-5 ethanol

PEL	1900 mg/m ³ , 1000 ppm
REL	1900 mg/m ³ , 1000 ppm
TLV	Short-term value: 1880 mg/m ³ , 1000 ppm

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls:

Personal protective equipment:

General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves:

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material:

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Safety glasses

Tightly sealed goggles

9 Physical and Chemical Properties

Information on basic physical and chemical properties	
General Information	
Appearance	
Form:	Fluid
Color:	Colorless
Odor:	Pleasant
Odor threshold:	Not determined.
pH-value:	Not determined.
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	50°C (122 °F)
Flash point:	111°C (232 °F)
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	410°C (770 °F)
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure at 20°C (68 °F):	23 hPa (17 mm Hg)
Density at 20°C (68 °F):	1.0251 g/cm ³ (8.554 lbs/gal)
Relative density:	Not determined.
Vapour density:	Not determined.
Evaporation rate:	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Segregation coefficient (n-octanol/water):	Not determined.
Dynamic:	Not determined.
Kinematic:	Not determined.

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Other information:	No further relevant information available.
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10 Stability and Reactivity

Reactivity:

Chemical stability:

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Possibility of hazardous reactions: No dangerous reactions known.

Conditions to avoid: No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicology Information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

107-22-2 glyoxal

Oral	LD50	7070 mg/kg (rat)
Dermal	LD50	10000 mg/kg (rabbit)

Primary irritant effect:

On the skin: Irritant to skin and mucous membranes.

On the eye: Irritating effect.

Sensitization: Sensitization possible through skin contact.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

Carcinogenic categories

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

12 Ecological Information

Toxicity:

Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Behavior in environmental systems:

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Additional ecological information:

General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

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Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects:** No further relevant information available.

13 Disposal Considerations

Waste treatment methods:**Recommendation:** Disposal must be made according to official regulations.**Uncleaned packagings:****Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport Information

UN-Number DOT, ADR, ADN, IMDG, IATA	Void
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Void
Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class	Void
Packing group DOT, ADR, IMDG, IATA	Void
Environmental hazards Marine pollutant:	No
Special precautions for user:	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	Not applicable.
UN "Model Regulation":	-

15 Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture**SARA****Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

107-21-1 | ethanediol

TSCA (Toxic Substances Control Act):

All ingredients are listed.

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Proposition 65

Chemicals known to cause cancer:	
None of the ingredients is listed.	
Chemicals known to cause reproductive toxicity for females:	
None of the ingredients are listed.	
Chemicals known to cause reproductive toxicity for males:	
None of the ingredients are listed.	
Chemicals known to cause developmental toxicity:	
64-17-5	ethanol

Carcinogenic categories

EPA (Environmental Protection Agency)		
None of the ingredients are listed.		
TLV (Threshold Limit Value established by ACGIH)		
107-22-2	glyoxal	A4
107-21-1	ethanediol	A4
64-17-5	ethanol	A3
NIOSH-Ca (National Institute for Occupational Safety and Health)		
None of the ingredients are listed.		
OSHA-Ca (Occupational Safety & Health Administration)		
None of the ingredients are listed.		

Product related hazard informations:

The product has been classified and marked in accordance with directives on hazardous materials.

Hazard symbols:

Harmful

Hazard-determining components of labelling:

glyoxal

Risk phrases:

- 20 Harmful by inhalation.
- 36/38 Irritating to eyes and skin.
- 43 May cause sensitisation by skin contact.
- 68 Possible risk of irreversible effects.

Safety phrases:

- 2 Keep out of the reach of children.
- 36/37 Wear suitable protective clothing and gloves.
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Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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16**Other****Information**

This information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of the material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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