SAFETY DATA SHEET according to
OSHA HazCom Standard 29 CFR 1910.2100(g), Rev. 2012 and GHS Rev 03

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY

1.1 Product identifier

Trade name	**PROTEOfectene®**
Product number	E010-…
Product description	Laboratory chemicals

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

General use

For research use only

Uses advised against

Not intended for human or animal diagnostic or therapeutic uses

1.3 Details of the supplier of the safety data sheet (Manufacturer/Supplier)

Company name	Biontex Laboratories GmbH		
Street/POB-No.	Landsberger Str. 234		
Postal Code/City	80687 München, GERMANY		
Dept. responsible for information			
Telefon	01149 89-32479950	Telefax	01149 89-32479952
E-mail	contact@biontex.com		
WWW	www.biontex.com		

1.4 Emergency telephone number

Centre of detoxification

USA or Canada	+1 800-424-9300

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Globally Harmonized System (GHS) classification

Flammable liquids categaroy 2

2.2 Label elements including hazard and precautionary statements

Classification according to Globally Harmonized System (GHS)

Signal word

Danger

Pictogram / Hazard symbol

Hazard statements

H phrases:

H225	highly flammable liquid and vapour

Precautionary statements

P phrases:

P210	keep away from heat, hot surfaces, sparks, open flames and other ignition sources; no smoking
P233	keep container tightly closed

Hazard-determining components of labeling
None
Other precautionary statements
➔ Chapter 4, 6, 7, 13

2.3 Other hazards / Hazards not otherwise classified or are not covered by GHS

None
Based on present knowledge and when handled correctly, the product poses no danger for humans and the environment.
The usual minimum standards for protective measures in the chemical industry must be observed.
Results of PBT and vPVB assessment ➔ Chapter 12

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

This product is a mixture.

3.1.1 Chemical identity and characterisation:

Name	CAS-No.	%	GHS classification
PROTEOfectene®	synthetic lipids in ethanol/water		
Ethanol	64-17-5	80	H225; P210; P232
Water	7732-18-5	20	not available
Positive control	fluorescent protein		
DPBS	not available	90	not available
R-Phycoerythrin	not available	10	not available

3.2 Additional information

The components of this product (< 0.13% by weight) are potentially harmful, although the chemical, physical, and toxicological properties have not been thoroughly investigated by Biontex. Handle with care, and practice safe laboratory techniques. The information included within this SDS pertains to ethanol, which is used as a solvent.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General information
Remove contaminated clothing immediately. Contaminated clothing should be laundered before reusing. Seek medical attention immediately if symptoms develop.
Inhalation
Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Skin contact
Wash skin with plenty of water thoroughly. Remove contaminated clothing.
Eye contact
Remove contact linses. Immediately flush eyes with plenty of flowing water for at least 20 minutes, also under the eyelids.
Swallowing / Ingestion
Never give anything by mouth to an unconscious person.
Rinse mouth with water thoroughly. If malaise develops, call a physician.
Do not induce vomiting without medical advice.

4.2 Most important symptoms and effects, both acute and delayed
No further relevant informations available.

4.3 Indication of any immediate medical attention and special treatment needed
No information available for special treatment. Treat symptomatically.
After first aid, get appropriate in-plant, paramedic, or community medical support if exposure symptoms persist.

4.4 Special precautions/procedures
None

4.5 Notes to physician
Treat symptomatically

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable	dry sand, carbon dioxide (CO_2), dry-chemica, alcohol resistant, or foam fire extinguisher, foam, water spray (=small efficiency factor)
Unsuitable	water jet, otherwise there is a risk of spread of fire

5.2 Special hazards arising from the substance or mixture
Dangerous decomposition is not anticipated, do not breath fumes of fire.

5.3 Advice for firefighters
Wear self-contained breathing apparatus and protective suit.
Use fine water spray to cool endangered containers (from a safe distance).
Suppress gases/vapours/mists with water spray jet.
Pay attention to backdraft.

5.4 Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment / personal protection measures.
Keep unprotected persons away / evacuate personnel to safe areas.
Ensure adequate ventilation.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so.
Prevent product from entering drains/surface water/groundwater.
Additional special actions to limit damages are not necessary.

6.3 Methods and material for containment and cleaning up
Dilute spilled liquids with plenty of water and adsorb. Sweep or vacuum (if powder) or soak up with inert absorbent material (if liquid), then replace into a suitable clean, dry, closed container and label for disposal.
Never return spills in original containers for reuse.

6.4 Reference to other sections

Information on safe handling	➔ Chapter 7
Information on personal protection equipment	➔ Chapter 8
Information for disposal	➔ Chapter 13

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Handling according to Guidelines for Laboratories.

Advices on safe handling

Usual precautions when handling chemicals ➔ Chapter 8.
Handle with care and avoid unnecessary, prolonged or repeated exposure. Avoid inhalation. Avoid contact with eyes, skin and clothing. Use protective equipment to minimize exposure.

Precautions against fire and explosion

Autoignition does not occur. no special precautions are necessary

Measures to prevent aerosol and dust generation

No special precautions are necessary.

Measures to protect the environment

No special precautions are necessary.

General Hygiene measures

No special precautions are necessary.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

This item is supplied uncooled and should be stored at **35,6°F and 46,4°F** (2°C - 8°C) immediately after receipt in a well-ventilated place. Do not freeze. Keep container tightly closed. Keep away from light. Use original container.

Requirements for storerooms and containers/hints on joint storage

There is no restriction and/or requirements for storage with other materials.

Storage class/storage in one common storage facility

10-13	Other liquids and solids

7.3 Specific end uses(s)

Refer to the instruction booklet for proper and intended use. Otherwise, contact.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameter e.g. occupational exposure limit / biological limit

Ethanol (64-17-5)

USA OSHA	OSHA PEL (TWA) (mg/m^3)	1900 mg/m^3
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

8.2 Exposure controls

Exposure limitation and controlling are workplace related and must be regulated by the user.

8.2.1 Appropriate technical safety devices

Technical measures and appropriate working operations are just as important as the use of personal protective equipment. Provide good ventilation and/or an exhaust system in the work area. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

8.2.2 Personal protective equipment

Personal protective equipment should be selected specifically for the workplace.

Eye / Face protection

Tightly sealed goggles. Ensure that an eyewash station is proximal to the workstation.

Skin / Body protection

Wear protactive clothes. Ensure that safety showers are proximal to the workstation.

Hand protection

Protective gloves - the material has to be impermeable and resistant to the product.
Break through time, permeation and degradation has to be found out by the manufacturer of the protective gloves and has to be observed.

Breathing protection

Not required

General protection and hygiene measures

The usual precautionary measures are to be adhered to when handling chemicals.
Remove contaminated clothing immediately and wash it before re-use.
After contact clean skin with soap and water or use appropriate detergent.
Wash hands before breaks and after work.
Keep out of reach of children.
Keep away from food, drink and animal feed.
Do not eat, drink or smoke during work/in work areas.

8.2.3 Environmental exposure controls

Information on environmental exposure ➔ Chapter 6, 7 und 12

8.3 Engineering measures

Always provide fresh air.
Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance/physical state	liquid
Color/Odour	Reagent: colorless/mild characteristic odour Positive control: rose/mild characteristic odour
pH value	no data available
Evaporation rate	no data available
Melting point/range	no data available
Boiling point/range	at 172,4°F (78°C) (for 100% Ethanol)
Flash point	at 53,6°F (12°C) (closed cup/for 100% Ethanol)
Flammability (solid, gaseous)	no data available
Ignition temperature (solid/gaseous)	at 797°F (425°C)
Autoignition temperature	no data available
Oxidising properties	no data available
Vapour pressure	68°F (20°C): 57 hPa
Vapour density	no data available
Relative density	no data available
Bulk density	no data available
Water solubility 68°F in g/l	completely
Partition coefficient n-Octanol/Wasser	no data available
Viscosity, kinematic	no data available
Viscosity, dynamic	no data available
Dust explosion hazard	no data available
Explosion properties	no data available
Explosion limits (lower/upper)	LEL Vol.3,5% - UEL Vol.15% (for 100% Ethanol)

Substance groups relevant properties	no data available
Surface tension	no data available
Solvent content (organic/water)	no data available
Solids content	none
Decomposition	no data available

9.2 Other information

No further relevant information available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Product is stable under normal storage conditions and if it used according to specifications.

10.3 Possibility of hazardous ractions

Vapour forms explosive mixture with air. Keep away from source of heat or ignition.

10.4 Conditions to avoid

No dangerous reactions known under conditions of normal use, handling and storage.

10.5 Incompatible materials

Unknown

10.6 Thermal decomposition products

No decomposition known if used according to specifications.

10.7 Hazardous decomposition products

No dangerous decomposition products known.

10.8 Polymerisation

Hazardous polymerisation does not occur.

10.9 Incompatible materials

No further relevant information available.

11. TOXICOLOGICAL INFORMATION

11.1 Information to toxicological effects of 100% Ethanol

Acute toxicity (LD_{50}/LC_{50})

Oral toxicity:	LD50 rat 7.060 mg / kg
Toxicity (inhalation):	LD50 mouse 19000 ppm (4h)
Toxicity (others):	LD50 intraperitoneal rat 4.070 mg / kg
Toxicity to fish:	LC50 Leuciscus idus 8.000 mg / L (48 h)
Toxicity to algae:	EC50 chlorella pyrenoidosa 9.000 mg / L
Toxicity to bacteria:	LOEC Pseudomonas putida 6.000 mg / L (16 h)
Toxicity to daphnia:	EC50 Daphnia magna 14-26 mg / L
Eye irritation	may cause irritation/allergic sensitization
Skin irritation	may cause irritation/allergic sensitization
Aspiration	may cause irritation/allergic sensitization

Ingestion	may cause irritation/allergic sensitization
Germ cell mutagenicity	unknown
Mutagenic effects/Reproductive toxicity	unknown
Carcinogenicity	unknown
EPA	none of the ingredients are listed
TLV (established by ACGIH)	none of the ingredients are listed
NIOSH	none of the ingredients are listed
NTP	none of the ingredients are listed
OSHA	none of the ingredients are listed
IARC	not classified
Sensitisation	unknown
Target organ effects (single or repeated exposure)	no known effects under normal use conditions
Chronic effects from short/long-term exposure	no information available
Numerical measures of toxicity	no information available
Assessment of other acute effects	no information available
Reproductive toxicity	no data available
Human-female-oral / Effects on newborn	
Apgar score (human only)	no data available as related to the small quantity
Other neonatal measures or effects	of this substance
Drug dependence	

12. ECOLOGICAL INFORMATION

12.1 Toxicity / Ecotoxicity
➔ Chapter 11

12.3 Persistence and degradability
No effects or hazards known

12.4 Bioaccumulative potential
No effects or hazards known

12.5 Mobility in soil
No effects or hazards known

12.6 Results of PBT and vPvB assessment
The substance does not meet the criteria for a classification

PBT	not applicable
vPvB	not applicable

12.7 Other adverse effects

Water	slightly hazardous
Ground	slightly hazardous

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Dispose of in accordance with local regulations and national laws and provisions.

13.2 Contaminated/appropriate packaging

Dispose of empty packs via local recycling or waste disposal routes, if necessary, clean them beforehand.

13.3 Additional information

Prevent discharge of the liquid into the sewage system, cesspit and cellars.
Vapours can form potentially explosive atmosphere.
Waste disposal must be in accordance with appropriate Federal, State and local regulations.
This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Residue from fires extinguished with this material may be hazardous.

14. TRANSPORT INFORMATION

14.1 UN number

1170

14.2 UN proper shipping name

Ethanol solutions

14.3 Transport hazard class(es)

Class III ADR/RID, IMO, ADN, IMDG/EmS, IATA/ICAO, DOT, MERCOSUR.

14.4 Packing group

II

14.5 Enviromental hazards

None

14.6 Special precautions for user

Not applicable ➔ Chapter 6 - 8

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

DOT Quantity Limitations – Passenger/Cargo: 1L; Cargo: 60L

15. REGULATORY INFORMATION

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

U.S. Federal Regulations

Respectively in the latest version incl. all amendments, additions and corrections.

OSHA	Flammable liquid, Target Organ Effect, Irritant
SARA/CERCLA	Fire Hazard, Chronic Health Hazard
TSCA	not listed
Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs)	not contains HAPs

U.S. State Regulations

Compliance with applicable agreements, regulations and laws of the respective country.

California Proposition 65	This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Other relevant regulations, restrictions and prohibition regulations

None

Inventory status

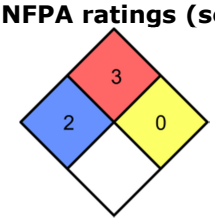
WHMIS hazard class (Canada)	
B2	Flammable and combustible material / flammable liquid
D2B	Poisonous and infectious material / other effects – Toxic
NDSL/DSL (Canada)	no data available
AICS (Australia)	no data available
ENCS/PACS (Japan)	no data available
IECSC (China)	no data available
KECI (Korea)	no data available
NECI/TCSCA (Taiwan)	no data available
NZIoC (New Zealand)	no data available
PICCS (Phillippines)	no data available

15.2 Chemical safety assessment

Not been carried out.

16. OTHER INFORMATION

NFPA ratings (scale 0 - 4)



This statements concern to 100% Ethanol

no data available as related to the small quantity of **PROTEOfectene®**

Health Hazard	**2**	Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
Flammability	**3**	Liquids and solids that can be ignited under almost all ambient conditions.
Instability	**0**	Normally stable, even under fire exposure conditions, and are not reactive with water.

HMIS III ratings (scale 0 – 4)

This statements concern to 100% Ethanol

no data available as related to the small quantity of **PROTEOfectene®**

Health	**2**	Temporary or minor injury may occur.
Flammability	**3**	Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 °F and boiling points above 100 °F, as well as liquids with flash points between 73 °F and 100 °F. (Classes IB & IC).
Physical Hazard	**1**	Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.
Personal Protection	**C**	

16.1 Issuing institution

Department issuing SDS
Department of Health, Safety and Environmental Protection

Contact
Dr. Roland Klösel

16.2 Abbreviations and acronyms

AICS	Australian Inventory of Chemical Substances
ADR	Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service (Division of the American Chemical Society)
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOT	Department of Transportation
(N)DSL	Canadian (Non-)Domestic Substance List
EmS	Emergency Schedule
EPA	Environmental Protection Agency
ENCS	Japanese Existing and New Chemical Substances
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO	International Civil Aviation Organization
IECSC	Existing Chemical Substances Produced or Imported in China
ILO	International Labour Organization
IMDG	International Maritime Code for Dangerous Goods
IMO	International Maritime Organization
KECI	Korean Existing Chemicals Inventory
LC_{50} / LD_{50}	Lethal concentration, 50 percent / Lethal dose, 50 percent
MARPOL	International Convention for the Prevention of Marine Pollution from Ships
MERCOSUR	Mercado Común del Sur
NECI	Taiwan´s National Existing Chemical Inventory
NIOSH	National Institute for Occupational Safety and Health
NZIoC	New Zealand Inventory of Chemicals
NFPA	National Fire Protection Association
NTP	National Toxicology Programm
OSHA	Occupational Safety & Health Adminstration
PACS	Japanese Priority Assessment Chemical Substances
PBT	Persistent, Bioaccumulative, Toxic
PICCS	Philippine Inventory of Chemicals and Chemical Substances
RID	Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the International Transport of dangerous goods by rail)
SARA	The Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TCSCA	Toxic Chemical Substances Control Act in Taiwan
UN No.	United Nation Numer
vPvB	Very persistent, very bioaccumulative
WHMIS	Workplace Hazardous Materials Information System

16.3 Further information

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. However, Biontex does not warrant the accuracy of this information.

All materials and mixtures may present unknown hazards and should be used with caution. When necessary or appropriate, independent opinions regarding the risk of handling or exposure should be obtained from trained professionals.

Since Biontex cannot control the actual methods, volumes, or conditions of use, Biontex shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein.

BIONTEX DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE RELATING TO THE INFORMATION IN THIS SDS.