

Safety Data Sheet

according to 29 CFR 1910.1200(g)

Passivation solution

Revision date: 12/08/2022

Product code: SOL-PAS-1-5.

Page 1 of 9

1. Identification

Product identifier

Passivation solution

Recommended use of the chemical and restrictions on use

Use of the substance/mixture

Use as laboratory reagent.

The product is intended for research, analysis and scientific education.

Uses advised against

Any non-intended use.

Details of the supplier of the safety data sheet

Company name: Dynamic Biosensors Inc.
Street: 300 Trade Center, Suite 1400
Place: USA-01801 Woburn, MA
Telephone: +1 781 404 6126

Emergency phone number: CONTACT (24-Hour-Number): GBK GmbH 01149-6132-84463

2. Hazard(s) identification

Classification of the chemical

29 CFR Part 1910.1200

This mixture is not classified as hazardous in accordance with Regulation 29 CFR 1910.1200(d).

Label elements

Additional advice on labelling

Labelling (GHS): none

Hazards not otherwise classified

No risks worthy of mention. Please observe the information on the safety data sheet at all times.

3. Composition/information on ingredients

Mixtures

Chemical characterization

Laboratory chemicals

The product does not contain dangerous substances to be mentioned in section 3.

Relevant ingredients

none (according to 29 CFR 1910.1200(g))

4. First-aid measures

Description of first aid measures

General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician.

After contact with skin

Gently wash with plenty of soap and water. In case of skin irritation, seek medical treatment.

Safety Data Sheet

according to 29 CFR 1910.1200(g)

Passivation solution

Revision date: 12/08/2022

Product code: SOL-PAS-1-5.

Page 2 of 9

After contact with eyes

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Rinse mouth thoroughly with water. Let water be drunk in little sips (dilution effect). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

Most important symptoms and effects, both acute and delayed

See sections 2 and 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂). Dry extinguishing powder. Alcohol resistant foam. Atomized water.

Unsuitable extinguishing media

High power water jet.

Specific hazards arising from the chemical

Can be released in case of fire: Carbon monoxide (CO). Carbon dioxide (CO₂). Hydrogen chloride (HCl), Nitrogen oxides (NO_x), Sulphur oxides

Special protective equipment and precautions for fire-fighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Co-ordinate fire-fighting measures to the fire surroundings.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

General advice

See protective measures under point 7 and 8.

For non-emergency personnel

Wear personal protection equipment (refer to section 8).

For emergency responders

No special measures are necessary.

Environmental precautions

Discharge into the environment must be avoided.

Methods and material for containment and cleaning up

For containment

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

For cleaning up

Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

7. Handling and storage

Safety Data Sheet

according to 29 CFR 1910.1200(g)

Passivation solution

Revision date: 12/08/2022

Product code: SOL-PAS-1-5.

Page 3 of 9

Precautions for safe handling

Advice on safe handling

Wear suitable protective clothing. (See section 8.)

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Always close containers tightly after the removal of product. When using do not eat, drink or smoke. Wash hands before breaks and after work.

Further information on handling

General protection and hygiene measures: refer to section 8

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place.

Hints on joint storage

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Radioactive substances. Infectious substances. Food and animal feedingstuff.

Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.

Recommended storage temperature: -20 °C

Protect against: frost. UV-radiation/sunlight. heat. Humidity

8. Exposure controls/personal protection

Control parameters

Additional advice on limit values

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Provide adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection

"Wear safety glasses; chemical goggles (if splashing is possible)." Standards: EN ISO 16321-1 or 29 CFR 1910.133

Hand protection

In case of prolonged or frequently repeated skin contact:

Wear suitable gloves.

Suitable material:

FKM (fluororubber). - Thickness of the glove material 0,4 mm

Breakthrough time \geq 8 h

Butyl rubber. - Thickness of the glove material 0,5 mm

Breakthrough time \geq 8 h

CR (polychloroprenes, Chloroprene rubber). - Thickness of the glove material 0,5 mm

Breakthrough time \geq 8 h

NBR (Nitrile rubber). - Thickness of the glove material 0,35 mm

Breakthrough time \geq 8 h

PVC (Polyvinyl chloride). - Thickness of the glove material 0,5 mm

Breakthrough time \geq 8 h

The selected protective gloves should satisfy the specifications of standards like EN 374.

Safety Data Sheet

according to 29 CFR 1910.1200(g)

Passivation solution

Revision date: 12/08/2022

Product code: SOL-PAS-1-5.

Page 4 of 9

Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Suitable protective clothing: Lab apron.

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection necessary at:

Exceeding exposure limit values

Suitable respiratory protective equipment: half-mask with filter EN 149 or 29 CFR 1910.134 .

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Environmental exposure controls

No special precautionary measures are necessary.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	liquid	
Color:	colourless	
Odor:	characteristic	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		not determined
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		not determined
Auto-ignition temperature:		not determined
Decomposition temperature:		not determined
pH-Value:		not determined
Viscosity / kinematic:		not determined
Water solubility:		not determined
Solubility in other solvents		not determined
Partition coefficient n-octanol/water:		SECTION 12: Ecological information
Vapor pressure:		not determined
Density:		not determined
Relative vapour density:		not determined

Other information

Information with regard to physical hazard classes

Explosive properties	
none	
Sustaining combustion:	Not sustaining combustion
Self-ignition temperature	
Gas:	not determined
Oxidizing properties	
none	

Other safety characteristics

Evaporation rate:	not determined
Solvent separation test:	not determined
Solvent content:	not determined
Solid content:	not determined

Safety Data Sheet

according to 29 CFR 1910.1200(g)

Passivation solution

Revision date: 12/08/2022

Product code: SOL-PAS-1-5.

Page 5 of 9

Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
Viscosity / dynamic:	not determined
Flow time:	not determined

10. Stability and reactivity

Reactivity

No information available.

Chemical stability

Stability: Stable

The product is chemically stable under recommended conditions of storage, use and temperature.

Possibility of hazardous reactions

Hazardous reactions: Will not occur

Refer to section 10.5.

Conditions to avoid

Protect against: UV-radiation/sunlight. heat.

Incompatible materials

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong.

Hazardous decomposition products

Can be released in case of fire: Carbon monoxide, Carbon dioxide (CO₂).

11. Toxicological information

Route(s) of Entry

Ingestion: May be harmful. Inhalation: May be harmful. Skin contact: May cause mild irritation. Eye contact: May cause irritation.

Information on toxicological effects

Toxicokinetics, metabolism and distribution

No data available.

Acute toxicity

Based on available data, the classification criteria are not met.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

Irritation and corrosivity

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

Sensitizing effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

Specific target organ toxicity (STOT) - single exposure

Based on available data, the classification criteria are not met.

Specific target organ toxicity (STOT) - repeated exposure

Based on available data, the classification criteria are not met.

Carcinogenicity (OSHA): no substance listed

Safety Data Sheet

according to 29 CFR 1910.1200(g)

Passivation solution

Revision date: 12/08/2022

Product code: SOL-PAS-1-5.

Page 6 of 9

Carcinogenicity (IARC): no substance listed

Carcinogenicity (NTP): no substance listed

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

No data available.

Information on other hazards

Endocrine disrupting properties

No data available.

12. Ecological information

Ecotoxicity

No data available.

Persistence and degradability

No data available .

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

The aforementioned statement applies to substances contained in the product with a minimum content of 0.1%.

Other adverse effects

No data available.

Further information

Do not allow to enter into surface water or drains.

13. Disposal considerations

Waste treatment methods

Disposal recommendations

Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal. Non-contaminated packages may be recycled.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

14. Transport information

U.S. DOT 49 CFR 172.101

Proper shipping name:

Not a hazardous material with respect to these transport regulations.

Marine transport (IMDG)

UN number or ID number:

No dangerous good in sense of this transport regulation.

UN proper shipping name:

No dangerous good in sense of this transport regulation.

Transport hazard class(es):

No dangerous good in sense of this transport regulation.

Packing group:

No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

UN number or ID number:

No dangerous good in sense of this transport regulation.

UN proper shipping name:

No dangerous good in sense of this transport regulation.

Safety Data Sheet

according to 29 CFR 1910.1200(g)

Passivation solution

Revision date: 12/08/2022

Product code: SOL-PAS-1-5.

Page 7 of 9

Transport hazard class(es): No dangerous good in sense of this transport regulation.

Packing group: No dangerous good in sense of this transport regulation.

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

Special precautions for user

refer to section 6 - 8

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

not relevant

15. Regulatory information

U.S. Regulations

National Inventory TSCA

All components are listed in the TSCA 8 (b) inventory as "active" or exempted.
 No components are listed under TSCA 12(b)

State Regulations

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)

This product can not expose you to chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

This mixture is classified as not hazardous according to Regulation 29 CFR Part 1910.1200.

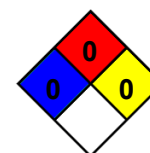
16. Other information

Hazardous Materials Identification System (HMIS)

Health: 0
 Flammability: 0
 Physical Hazard: 1
 Personal Protection: -

NFPA Hazard Ratings

Health: 0
 Flammability: 0
 Reactivity: 0
 Unique Hazard:



Changes

Revision date: 12/08/2022

Revision No: 3,0

Rev. 1,0; 31.08.2015, Initial release

Rev. 1.1; 02.03.2016, Documentation of changes: Material no.: B-19-50. -> SOL-PAS-1-5.

Rev. 1.2; 13.03.2017, Documentation of changes: section: 1, 16.

Rev. 2.0; 26.04.2021, Documentation of changes: section: 3, 6, 7, 10, 11, 12, 15, 16

Rev. 3.0; 08.12.2022; Changes in section: 1,16

Safety Data Sheet

according to 29 CFR 1910.1200(g)

Passivation solution

Revision date: 12/08/2022

Product code: SOL-PAS-1-5.

Page 8 of 9

Abbreviations and acronyms

ACGIH: American Conference of Governmental Industrial Hygienists
ASTM: American Society for Testing and Materials.
ATE: acute toxicity estimate
BCF: Bio concentration factor
ECHA: European Chemicals Agency
CAS: Chemical Abstracts Service
CFR: Code of Federal Regulations
DOT: Department of Transportation
d: days
EC50: Half maximal effective concentration
EN: European Norm
EPA: Environmental Protection Agency
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
h: hours
HMIS: Hazardous Materials Identification System
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
IBC: Intermediate Bulk Container
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
LOAEL: Lowest observed adverse effect level
LOAEC: Lowest observed adverse effect concentration
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
MARPOL: marine pollution
NOAEL: No observed adverse effect level
NOAEC: No observed adverse effect concentration
NTP: National Toxicology Program
N/A: not applicable
NFPA: National Fire Protection Association
UN: United Nations
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PBT: Persistent bioaccumulative toxic
RTECS: Registry of Toxic Effects of Chemical Substances
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
SARA: Superfund Amendments and Reauthorization Act
STEL: short-term exposure limits
TSCA: Toxic Substances Control Act
TWA: time weighted average
VOC: Volatile Organic Compounds

Other data

Classification according 29 CFR Part 1910.1200: - Classification procedure:
Health hazards: Calculation method.
Environmental hazards: Calculation method.
Physical hazards: On basis of test data and / or calculated and / or estimated.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of

Safety Data Sheet

according to 29 CFR 1910.1200(g)

Passivation solution

Revision date: 12/08/2022

Product code: SOL-PAS-1-5.

Page 9 of 9

processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)