

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

1.1. Product identifier

Trade name : DAB Membrane Concentrate – Reagent A
Product form : Mixture
Product code : DABC
Other means of identification : Component of BioFX® DAB Membrane Substrate (DABM)

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

Use of the substance/mixture : For laboratory use

1.3. Details of the supplier of the safety data sheet

SurModics, Inc.
9924 West 74th Street
Eden Prairie, MN 55344 USA
Phone: (952) 500-7000
Fax: (952) 500-7001

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 (US and Canada) / 1-703-527-3887 (International shipments)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Muta. 2 H341
Carc. 1B H350

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS08

Signal word (GHS-US) : **Danger**

Hazard statements (GHS-US) : H341 - Suspected of causing genetic defects
H350 - May cause cancer

Precautionary statements (GHS-US) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear eye protection, protective clothing, protective gloves
P308+P313 - If exposed or concerned: Get medical advice/attention
P405 - Store locked up
P501 - Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste

2.3. Other hazards

Other hazards not contributing to the classification : None under normal conditions.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%
3,3'-Diaminobenzidine tetrahydrochloride hydrate	(CAS No) 868272-85-9	1 - 5

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SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.
First-aid measures after inhalation	: IF INHALED: Remove to fresh air and keep at rest in a comfortable position for breathing. Call a doctor.
First-aid measures after skin contact	: IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention.
First-aid measures after eye contact	: IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. If pain, blinking, or irritation develops or persists, get medical attention. Continue rinsing.
First-aid measures after ingestion	: IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries	: May cause cancer. Suspected of causing genetic defects.
Symptoms/injuries after inhalation	: May cause respiratory irritation.
Symptoms/injuries after skin contact	: May cause skin irritation.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: May cause gastrointestinal irritation.
Chronic symptoms	: May cause cancer. Suspected of causing genetic defects.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
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5.2. Special hazards arising from the substance or mixture

Fire hazard	: No data available.
Explosion hazard	: No data available.
Reactivity	: No dangerous reactions known under normal conditions of use.

5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Evacuate area. Keep upwind. Ventilate area. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).
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6.1.1. For non-emergency personnel

Protective equipment	: Wear Protective equipment as described in Section 8.
Emergency procedures	: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	: Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.
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6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment	: Scoop solid spill into closing containers or bags. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal.
Methods for cleaning up	: Place in a suitable container for disposal in accordance with the waste regulations (see Section 13). Wash spill area thoroughly with plenty of soap and water.

6.4. Reference to other sections

No additional information available

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Use appropriate personal protection equipment (PPE). Keep away from sources of ignition - No smoking. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep the container tightly closed. Store in a dry, cool and well-ventilated place. Store away from light. Avoid elevated temperatures.

Storage temperature : 2 - 8 °C

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No data available

8.2. Exposure controls

Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment : Gloves. Wear chemically impervious apron over labcoat and full coverage clothing. Wear chemical goggles and face shield in combination.



Hand protection : Change contaminated gloves immediately. Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Suitable gloves for this specific application can be recommended by the glove supplier. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl.

Eye protection : Chemical goggles and face shield must be worn in combination.

Skin and body protection : Wear long sleeves, and chemically impervious PPE to minimize bodily exposure.

Respiratory protection : Use NIOSH-approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Clear.

Color : Reddish-purple. Brown.

Odor : No data available

Odor Threshold : No data available

pH : No data available

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Flammability (solid, gas) : No data available

Vapor pressure : No data available

Relative vapor density at 20 °C : No data available

Relative density : 1.01

Solubility : Water: Complete

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Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Product is not explosive.
Oxidizing properties	: Not an Oxidizer.
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Light. elevated temperatures. Moisture.

10.5. Incompatible materials

Strong oxidizers. Metals.

10.6. Hazardous decomposition products

Hazardous fumes of nitrous oxides (NOx) and carbon oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: May cause respiratory irritation.
Symptoms/injuries after skin contact	: May cause skin irritation.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: May cause gastrointestinal irritation.
Chronic symptoms	: May cause cancer. Suspected of causing genetic defects.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No data available.

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

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Safety Data Sheet

SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Waste treatment methods : Do not discharge to public wastewater systems without permit of pollution control authorities. No discharge to surface waters is allowed without an NPDES permit.
- Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

SECTION 14: Transport information

In accordance with DOT

Not hazardous for transport

Additional information

Other information : No supplementary information available.

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

DAB Membrane Concentrate

All chemical substances in this product are listed in the EPA (Environmental Protection Agency) TSCA (Toxic Substances Control Act) Inventory

SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard
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15.2. International regulations

CANADA

No additional information available

15.3. US State regulations

California Proposition 65

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm.

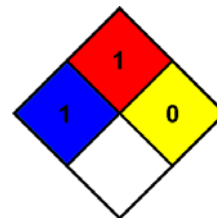
3,3'-Diaminobenzidine tetrahydrochloride hydrate (868272-85-9) (Present at <5%)

U.S. - Pennsylvania - RTK (Right to Know) List

U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

- Indication of changes : Revision : New SDS Created.
- Revision date : 21-Nov-2014
- Other information : Author: EKW.
- NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
- NFPA fire hazard : 1 - Must be preheated before ignition can occur.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



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

1.1. Product identifier

Product name : DAB Membrane Reaction Buffer – Reagent B
 Product form : Mixture
 Product code : DABD
 Other means of identification : Component of BioFX® DAB Membrane Substrate (DABM)

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

Use of the substance/mixture : For laboratory use

1.3. Details of the supplier of the safety data sheet

SurModics, Inc.
 9924 West 74th Street
 Eden Prairie, MN 55344 USA
 Phone: (952) 500-7000
 Fax: (952) 500-7001

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 (US and Canada) / 1-703-527-3887 (International shipments)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. Label elements

GHS-US labelling

No labelling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%
Contains no hazardous ingredients at levels requiring disclosure by the OSHA Hazard Communication Standard (29 CFR 1910.1200).		100

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
 First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
 First-aid measures after skin contact : IF ON SKIN (or clothing), remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation persists, call a physician.
 First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Obtain medical attention if pain, blinking or redness persist.
 First-aid measures after ingestion : IF SWALLOWED: Immediately give large amounts of water. Do NOT induce vomiting. Call a POISON CENTER/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.
 Symptoms/injuries after inhalation : May cause irritation to the respiratory tract and to other mucous membranes.

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Safety Data Sheet

Symptoms/injuries after skin contact	: May cause skin irritation.
Symptoms/injuries after eye contact	: May cause slight temporary irritation.
Symptoms/injuries after ingestion	: May cause gastrointestinal irritation.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Dry powder. Foam. Water spray. Sand.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: The product is not flammable.
Explosion hazard	: Product is not explosive.
Reactivity	: No dangerous reactions known under normal conditions of use.

5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Wear self-contained breathing apparatus and protective suit (see item 8).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Keep upwind. Ventilate area. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

6.1.1. For non-emergency personnel

Protective equipment	: Wear Protective equipment as described in Section 8.
Emergency procedures	: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	: Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.
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6.2. Environmental precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up	: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Sweep or shovel spills into appropriate container for disposal. This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Do not handle until all safety precautions have been read and understood. Use appropriate personal protection equipment (PPE). Keep away from sources of ignition - No smoking. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
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7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep the container tightly closed. Store in a dry, cool and well-ventilated place. Store away from light. Avoid elevated temperatures.
Storage temperature	: 2 - 8 °C

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No data available

DAB Membrane Reaction Buffer – Reagent B

Safety Data Sheet

8.2. Exposure controls

Appropriate engineering controls

: Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

: Gloves. Protective goggles.



Hand protection

: Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl.

Eye protection

: Chemical goggles or safety glasses.

Skin and body protection

: Wear suitable protective clothing. Wear long sleeves.

Respiratory protection

: Where excessive vapor, mist, or dust may result, use NIOSH approved respiratory protection equipment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear, colorless liquid.
Color	: Clear.
Odor	: None.
Odor Threshold	: No data available
pH	: Neutral
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 100 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not Flammable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Relative density of saturated gas/air mixture	: 1 (H ₂ O = 1)
Solubility	: Aqueous.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Product is not explosive.
Oxidising properties	: Not an Oxidizer.
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

None known.

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10.4. Conditions to avoid

Light. Elevated temperatures. Moisture.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Under fire conditions, hazardous fumes will be present.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Not classified pH: Neutral
Serious eye damage/irritation	: Not classified pH: Neutral
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: May cause irritation to the respiratory tract and to other mucous membranes.
Symptoms/injuries after skin contact	: May cause skin irritation.
Symptoms/injuries after eye contact	: May cause slight temporary irritation.
Symptoms/injuries after ingestion	: May cause gastrointestinal irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No information available.

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

No information available.

12.5. Other adverse effects

Other adverse effects : No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.
Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

SECTION 14: Transport information

In accordance with DOT

Not hazardous for transport

Additional information

Other information : No supplementary information available.

Transport by sea

No additional information available

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Safety Data Sheet

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

DAB Membrane Reaction Buffer – Reagent B

All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory

15.2. International regulations

CANADA

No additional information available

15.3. US State regulations

California Proposition 65

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

SECTION 16: Other information

Indication of changes : Revision 2: New SDS Created.

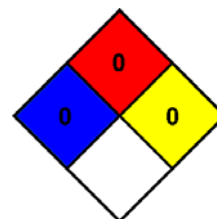
Revision date : 10-Dec-2014

Other information : Author: CAE.

NFPA health hazard : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



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