

# MATERIAL SAFETY DATA SHEET

Fluorescein Diacetate (FDA) Stain

VERSION NO.: 1.0  
MSDS DATE: 18 JAN 2019

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Fluorescein Diacetate (FDA) Stain  
**PRODUCT CODES:** Component 1 of 3, CD-FDA-1 of KIT-CD-YEAST-1.5

**MANUFACTURER:** DeNovix Inc.  
**ADDRESS:** 3411 Silverside Road  
Hanby Building 101  
Wilmington, DE 19810

**PHONE:** 1-302-442-6911

**PRODUCT USE:** For research use only  
**PREPARED BY:** DeNovix Inc.

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

### Mixtures

Component	Synonyms	Formula	CAS No.	Weight %
Dimethyl sulfoxide	Methyl sulfoxide	C <sub>2</sub> H <sub>6</sub> OS	67-68-5	60-100%
Fluorescein diacetate	3,6-Diacetoxyfluoran	C <sub>24</sub> H <sub>16</sub> O <sub>7</sub>	596-09-8	< 1%

## SECTION 3: HAZARDS IDENTIFICATION

### CLASSIFICATION according to DIRECTIVE 1999/45/EC R-phrase(s)

R36/37/38 Irritating to eyes, respiratory system and skin S-phrase(s) S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice S37/39 Wear suitable gloves and eye/face protection

### CLASSIFICATION according to REGULATION (EC) No 1272/2008[CLP] (DTT)

Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, Acute Tox. 4

### LABELING, REGULATION (EC) No 1272/2008 CLP

**HAZARD PICTOGRAM** None

**SIGNAL WORD** Warning  
**HAZARD STATEMENT** H227 – Combustible liquid

### PRECAUTIONARY STATEMENTS

P210 – Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.  
No smoking.  
P280 – Wear protective gloves/protective clothing/eye protection/face protection.  
P370 + 378 – In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
P403 – Store in a well-ventilated place.  
P501 – Dispose of contents/container to an approved waste disposal plant.

### OTHER HAZARDS

None

## SECTION 4: FIRST AID MEASURES

### IN CASE OF EYE CONTACT:

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

### IN CASE OF SKIN CONTACT

Wash off with soap and plenty of water. Consult a physician.

### IF INHALED:

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### IF SWALLOWED

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

# MATERIAL SAFETY DATA SHEET

Fluorescein Diacetate (FDA) Stain

VERSION NO.: 1.0  
MSDS DATE: 18 JAN 2019

## INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

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## SECTION 5: FIRE-FIGHTING MEASURES

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### EXTINGUISHING MEDIA

#### SUITABLE EXTINGUISHING MEDIA

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

### SPECIAL HAZARDS ARISING FROM THE SUBSTANCES OR MIXTURE

Carbon oxides, Sulphur oxides

### ADVICE OF FIRE-FIGHTERS

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self contained breathing apparatus for fire fighting if necessary.

### FURTHER INFORMATION

Use water spray to cool unopened containers.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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### PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Avoid breathing vapours, mist or gas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

### ENVIRONMENTAL PRECAUTIONS

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

### REFERENCE TO OTHER SECTIONS

For disposal see section 13.

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## SECTION 7: HANDLING AND STORAGE

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### PRECAUTIONS FOR SAFE HANDLING

Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

### CONDITIONS FOR SAFE STORAGE

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Store under inert gas. hygroscopic.

### SPECIFIC END USE(S)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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### CONTROL PARAMETERS

Components with workplace control parameters

### EXPOSURE CONTROLS

### APPROPRIATE ENGINEERING CONTROLS

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

# MATERIAL SAFETY DATA SHEET

Fluorescein Diacetate (FDA) Stain

VERSION NO.: 1.0  
MSDS DATE: 18 JAN 2019

## PERSONAL PROTECTIVE EQUIPMENT

### RESPIRATORY PROTECTION

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### HAND PROTECTION

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

### EYE PROTECTION

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### SKIN AND BODY PROTECTION

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### CONTROL OF ENVIRONMENTAL EXPOSURE

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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<b>APPEARANCE:</b>	Color: colorless
<b>ODOR:</b>	No data available
<b>PHYSICAL STATE:</b>	Liquid
<b>pH:</b>	No data available
<b>BOILING POINT:</b>	189°C
<b>MELTING/FREEZING POINT:</b>	Melting point/range: 16 – 19°C
<b>VAPOR PRESSURE:</b>	No data available
<b>VAPOR DENSITY:</b>	No data available
<b>SPECIFIC GRAVITY:</b>	No data available
<b>EVAPORATION RATE:</b>	No data available
<b>SOLUBILITY IN WATER:</b>	No data available
<b>PARTITION COEFFICIENT: N-OCTANOL / WATER</b>	No data available
<b>AUTO-IGNITION TEMPERATURE</b>	No data available
<b>DECOMPOSITION TEMPERATURE</b>	No data available
<b>VISCOSITY</b>	No data available
<b>DYNAMIC VISCOSITY</b>	No data available

### OTHER SAFETY INFORMATION

No data available

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## SECTION 10: STABILITY AND REACTIVITY

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### STABILITY:

Stable under recommended storage conditions.

### REACTIVITY:

No data available

### POSSIBILITY OF HAZARDOUS REACTIONS:

No data available

### CONDITIONS TO AVOID:

Heat, flames and sparks

### INCOMPATIBLE MATERIALS:

Acid chlorides, Phosphorus halides, Strong acids, Strong oxidizing agents, Strong reducing agents

### HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:

Other decomposition products - No data available

In the event of fire: see section 5

# MATERIAL SAFETY DATA SHEET

Fluorescein Diacetate (FDA) Stain

VERSION NO.: 1.0  
MSDS DATE: 18 JAN 2019

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## SECTION 11: TOXICOLOGICAL INFORMATION

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**ACUTE TOXICITY** No data available

**SKIN CORROSION/IRRITATION**  
No data available

**SERIOUS EYE DAMAGE/EYE IRRITATION**  
No data available

**RESPIRATORY OR SKIN SENSITATION**  
No data available

**GERM CELL MUTAGENICITY**  
No data available

**CARCINOGENICITY:**  
**IARC:** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**REPRODUCTIVE TOXICITY**  
No data available

**SPECIFIC TARGET ORGAN TOXICITY - single exposure**  
No data available

**SPECIFIC TARGET ORGAN TOXICITY - repeated exposure**  
No data available

**ASPIRATION HAZARD**  
No data available

**POTENTIAL HEALTH EFFECTS**  
**MUTAGENIC EFFECTS**

Substances which cause concern for man owing to possible mutagenic effects but for which the available information is not adequate for making a satisfactory assessment.

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## SECTION 12: ECOLOGICAL INFORMATION

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**TOXICITY**  
No data available

**PERSISTENCE AND DEGRADABILITY**  
No data available

**BIOACCUMULATIVE POTENTIAL**  
No data available

**MOBILITY IN SOIL**  
No data available

**PBT and vPvB ASSESSMENT**  
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**OTHER ADVERSE EFFECTS**  
No data available

Remarks: Hydrolyses readily.

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## SECTION 13: DISPOSAL CONSIDERATIONS

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**WASTE TREATMENT METHODS**

**PRODUCT**

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

# MATERIAL SAFETY DATA SHEET

Fluorescein Diacetate (FDA) Stain

VERSION NO.: 1.0  
MSDS DATE: 18 JAN 2019

## CONTAMINATED PACKAGING

Dispose of as unused product.

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## SECTION 14: TRANSPORT INFORMATION

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DOT (US)	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods

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## SECTION 15: REGULATORY INFORMATION

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This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

No data available

### Chemical safety assessment

For this product a chemical safety assessment was not carried out

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## SECTION 16: OTHER INFORMATION

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### DISCLAIMER:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This material is sold for research purposes only and is not required to appear on the TSCA inventory. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. DeNovix Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

# MATERIAL SAFETY DATA SHEET

Propidium Iodide Dye

VERSION NO.: 1.0  
MSDS DATE: 18 JAN 2019

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## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

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**PRODUCT NAME:** Propidium Iodide Dye  
**PRODUCT CODES:** Components 1 of 1 of CD-PI-1.5 or Component 2 of 3 of CD-YEAST-1.5

**MANUFACTURER:** DeNovix Inc.  
**ADDRESS:** 3411 Silverside Road  
Hanby Building 101  
Wilmington, DE 19810

**PHONE:** 1-302-442-6911

**PRODUCT USE:** For research use only  
**PREPARED BY:** DeNovix Inc.

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## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

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**Mixtures**

<b>COMPONENT</b>	<b>Propidium Iodide</b> Synonyms : 3,8-Diamino-5-(3-diethylaminopropyl)-6-phenylphenanthridinium iodide methiodide or Phenanthridinium, 3,8-diamino-5-[3-(diethylmethylammonio)propyl]-6-phenyl-, diiodide
<b>CLASSIFICATION</b>	Not a hazardous substance or mixture.
<b>CAS NO.</b>	25535-16-4
<b>Molecular Weight</b>	668.39 g/mol
<b>Concentration</b>	<0.01%

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## SECTION 3: HAZARDS IDENTIFICATION

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**CLASSIFICATION of the substance or mixture**  
Not a hazardous substance or mixture.

**GHS Label elements, including precautionary statements**  
Not a hazardous substance or mixture.

**Hazards not otherwise classified (HNOC) or not covered by GHS - none**

<b>HMIS CLASSIFICATION:</b>		<b>NFPA RATING:</b>	
<b>HEALTH HAZARD</b>	1	<b>HEALTH HAZARDS</b>	1
<b>FLAMMABILITY</b>	0	<b>FIRE</b>	0
<b>PHYSICAL HAZARDS</b>	0	<b>REACTIVITY HAZARDS</b>	0

<b>AQUATIC ACUTE</b>	Acute aquatic toxicity
<b>AQUATIC CHRONIC</b>	Chronic aquatic toxicity
<b>H412</b>	Harmful to aquatic life with long lasting effects.

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## SECTION 4: FIRST AID MEASURES

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**GENERAL ADVICE:**  
Consult a physician. Show this safety data sheet to the doctor in attendance.

**IF INHALED:**  
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**IN CASE OF SKIN CONTACT**  
Wash off with soap and plenty of water. Consult a physician.

**IN CASE OF EYE CONTACT:**  
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**IF SWALLOWED**  
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED**  
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED**  
No data available

# MATERIAL SAFETY DATA SHEET

## Propidium Iodide Dye

VERSION NO.: 1.0  
MSDS DATE: 18 JAN 2019

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### SECTION 5: FIRE-FIGHTING MEASURES

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#### SUITABLE EXTINGUISHING MEDIA

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self contained breathing apparatus for fire fighting if necessary.

#### SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Oxides of phosphorus, Hydrogen chloride gas, Potassium oxides, Sodium oxides

#### ADVICE FOR FIREFIGHTERS

Wear self-contained breathing apparatus for firefighting if necessary.

#### FURTHER INFORMATION

No data available

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### SECTION 6: ACCIDENTAL RELEASE MEASURES

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#### PERSONAL PRECAUTIONS

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust. Remove all sources of ignition.

#### ENVIRONMENTAL PRECAUTIONS

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

#### METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

#### REFERENCE TO OTHER SECTIONS

For disposal see section 13.

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### SECTION 7: HANDLING AND STORAGE

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#### PRECAUTIONS FOR SAFE HANDLING

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 4.

#### CONDITIONS FOR SAFE STORAGE

Keep container tightly closed in a dry and well-ventilated place. Storage class (TRGS 510): Non-Combustible Solids.

#### SPECIFIC END USE(S)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### PERSONAL PROTECTIVE EQUIPMENT

##### EYE/FACE PROTECTION

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### SKIN PROTECTION

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

##### BODY PROTECTION

impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

# MATERIAL SAFETY DATA SHEET

Propidium Iodide Dye

VERSION NO.: 1.0  
MSDS DATE: 18 JAN 2019

## RESPIRATORY PROTECTION

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## CONTROL OF ENVIRONMENTAL EXPOSURE

Do not let product enter drains.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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<b>APPEARANCE:</b>	Form: solid
<b>ODOR:</b>	No information available
<b>pH:</b>	No information available
<b>BOILING POINT:</b>	No information available
<b>FREEZING POINT:</b>	No information available
<b>VAPOR PRESSURE:</b>	No information available
<b>VAPOR DENSITY:</b>	No information available
<b>SPECIFIC GRAVITY:</b>	No information available
<b>EVAPORATION RATE:</b>	No information available
<b>SOLUBILITY IN WATER:</b>	No information available
<b>PARTITION COEFFICIENT: N- octanol/water</b>	No data available
<b>AUTO-IGNITION TEMPERATURE:</b>	No data available
<b>DECOMPOSITION TEMPERATURE:</b>	No data available
<b>VISCOSITY:</b>	No data available
<b>EXPLOSIVE PROPERTIES:</b>	No data available
<b>OXIDIZING PROPERTIES:</b>	No data available

## OTHER SAFETY INFORMATION:

No data available

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## SECTION 10: STABILITY AND REACTIVITY

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### REACTIVITY

No data available

### CHEMICAL STABILITY

Stable under recommended storage conditions.

### POSSIBILITY OF HAZARDOUS REACTIONS

No data available

### CONDITIONS TO AVOID

No data available

### INCOMPATIBLE MATERIALS

No data available

### HAZARDOUS DECOMPOSITION PRODUCTS

Other decomposition products - No data available In the event of fire: see section 5

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## SECTION 11: TOXICOLOGICAL INFORMATION

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**TOXICOLOGICAL INFORMATION:** No data available

**ACUTE TOXICITY** No data available

Inhalation: No data available

Dermal: No data available

**SKIN CORROSION/IRRITATION**

No data available

**SERIOUS EYE DAMAGE/EYE IRRITATION**

No data available

**RESPIRATORY OR SKIN SENSITATION**

No data available

**GERM CELL MUTAGENICITY**

No data available

## CARCINOGENICITY:

**IARC:** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.



# MATERIAL SAFETY DATA SHEET

Propidium Iodide Dye

VERSION NO.: 1.0  
MSDS DATE: 18 JAN 2019

**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.  
**OSHA:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**REPRODUCTIVE TOXICITY** No data available  
**TERATOGENICITY** No data available  
**SPECIFIC TARGET ORGAN TOXICITY - single exposure (Globally Harmonized System)** No data available  
**SPECIFIC TARGET ORGAN TOXICITY - repeated exposure (Globally Harmonized System)** No data available  
**ASPIRATION HAZARD** No data available  
**ADDITIONAL INFORMATION** RTECS: No data available

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## SECTION 12: ECOLOGICAL INFORMATION

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**TOXICITY** No data available  
**PERSISTENCE AND DEGRADABILITY** No data available  
**BIOACCUMULATIVE POTENTIAL** No data available  
**MOBILITY IN SOIL** No data available  
**PBT and vPvB ASSESSMENT** PBT/vPvB assessment not available as chemical safety assessment not required/not conducted  
**OTHER ADVERSE EFFECTS** No data available

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## SECTION 13: DISPOSAL CONSIDERATIONS

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**PRODUCT** Do not dispose product into sewage. Consult local, state or national regulation for proper disposal.  
**CONTAMINATED PACKAGING** Dispose of as unused product.

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## SECTION 14: TRANSPORT INFORMATION

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**DOT (US)** Not dangerous goods  
**IMDG** Not dangerous goods  
**IATA** Not dangerous goods

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## SECTION 15: REGULATORY INFORMATION

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**OSHA HAZARDS** No data available  
**SARA 302 COMPONENTS** SARA 302: No chemicals found.  
**SARA 313 COMPONENTS** SARA 313: No chemicals found.  
**SARA 311/312 HAZARDS**  
Acute Health Hazard - Yes  
Chronic Health Hazard - No  
Fire Hazard - Yes  
Sudden Release of Pressure Hazard - No  
Reactive Hazard - No

### MASSACHUSETTS RIGHT TO KNOW COMPONENTS

Disodium hydrogenorthophosphate CAS-No.: 7558-79-4 Revision Date 2007-03-01

### PENNSYLVANIA RIGHT TO KNOW COMPONENTS

Sodium chloride CAS-No.: 7647-14-5 Revision Date 2007-03-01  
Potassium chloride CAS-No.: 7447-40-7  
Disodium hydrogenorthophosphate CAS-No.: 7558-79-4 Revision Date 2007-03-01

### NEW JERSEY RIGHT TO KNOW COMPONENTS

Sodium chloride CAS-No.: 7647-14-5 Revision Date 2007-03-01

# MATERIAL SAFETY DATA SHEET

Propidium Iodide Dye

VERSION NO.: 1.0  
MSDS DATE: 18 JAN 2019

Potassium chloride CAS-No.: 7447-40-7  
Disodium hydrogenorthophosphate CAS-No.: 7558-79-4

Revision Date 2007-03-01

## CALIFORNIA PROP. 65 COMPONENTS

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

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## SECTION 16: OTHER INFORMATION

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# MATERIAL SAFETY DATA SHEET

## PBS Buffer (Phosphate Buffered Saline)

VERSION NO.: 1.0  
MSDS DATE: 18 JAN 2019

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** PBS Buffer (Phosphate Buffered Saline)  
**PRODUCT CODES:** Component 3 of 3, CD-PBS-20 of KIT-CD-YEAST-1.5

**MANUFACTURER:** DeNovix Inc.  
**ADDRESS:** 3411 Silverside Road  
Hanby Building 101  
Wilmington, DE 19810

**PHONE:** 1-302-442-6911

**PRODUCT USE:** For research use only  
**PREPARED BY:** DeNovix Inc.

### SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

#### Mixtures

Component	CAS No.	EC No.	Weight %
Potassium Chloride	7447-40-7	231-211-8	10 – 20%

### SECTION 3: HAZARDS IDENTIFICATION

#### CLASSIFICATION of the substance or mixture

Not a hazardous substance or mixture.

#### CLASSIFICATION according to REGULATION (EC) No 1272/2008[CLP] (DTT)

Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, Acute Tox. 4

#### GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

Hazards not otherwise classified (HNOC) or not covered by GHS - none

#### HMIS CLASSIFICATION:

**HEALTH HAZARD** 1  
**FLAMMABILITY** 0  
**PHYSICAL HAZARDS** 0

#### NFPA RATING:

**HEALTH HAZARDS** 1  
**FIRE** 0  
**REACTIVITY HAZARDS** 0

**Aquatic Acute** Acute aquatic toxicity.  
**Aquatic Chronic** Chronic aquatic toxicity.  
**H412** Harmful to aquatic life with long lasting effects.

### SECTION 4: FIRST AID MEASURES

#### GENERAL ADVICE:

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area. Remove affected clothing and launder before reuse.

#### IF INHALED:

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### IN CASE OF SKIN CONTACT

Wash off with soap and plenty of water. Consult a physician.

#### IN CASE OF EYE CONTACT:

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### IF SWALLOWED

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

# MATERIAL SAFETY DATA SHEET

## PBS Buffer (Phosphate Buffered Saline)

VERSION NO.: 1.0  
MSDS DATE: 18 JAN 2019

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### SECTION 5: FIRE-FIGHTING MEASURES

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#### SUITABLE EXTINGUISHING MEDIA

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self contained breathing apparatus for fire fighting if necessary.

#### SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Oxides of phosphorus, Hydrogen chloride gas, Potassium oxides, Sodium oxides

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### SECTION 6: ACCIDENTAL RELEASE MEASURES

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#### PERSONAL PRECAUTIONS

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust. Remove all sources of ignition.

#### ENVIRONMENTAL PRECAUTIONS

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

#### METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Contain spillage. Soak up spilled substance with inert absorbent material. Keep in suitable, closed containers for disposal.

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### SECTION 7: HANDLING AND STORAGE

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#### PRECAUTIONS FOR SAFE HANDLING

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed.

#### CONDITIONS FOR SAFE STORAGE

Keep container tightly closed in a dry and well-ventilated place.  
Storage class (TRGS 510): Non Combustible Solids

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### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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Contains no substances with occupational exposure limit values.

#### PERSONAL PROTECTIVE EQUIPMENT

##### RESPIRATORY PROTECTION

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### HAND PROTECTION

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

##### EYE PROTECTION

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### SKIN AND BODY PROTECTION

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### HYGIENE MEASURES

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

# MATERIAL SAFETY DATA SHEET

## PBS Buffer (Phosphate Buffered Saline)

VERSION NO.: 1.0  
MSDS DATE: 18 JAN 2019

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### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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**APPEARANCE:** Form: solid  
**ODOR:** No information available  
**pH:** No information available  
**BOILING POINT:** No information available  
**FREEZING POINT:** No information available  
**VAPOR PRESSURE:** No information available  
**VAPOR DENSITY:** No information available  
**SPECIFIC GRAVITY:** No information available  
**EVAPORATION RATE:** No information available  
**SOLUBILITY IN WATER:** No information available

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### SECTION 10: STABILITY AND REACTIVITY

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**STABILITY:** Stable under recommended storage conditions.  
**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** Other decomposition products - No data available  
**CONDITIONS TO AVOID:** No information available

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### SECTION 11: TOXICOLOGICAL INFORMATION

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#### TOXICOLOGICAL INFORMATION:

**ACUTE TOXICITY** No data available

<b>OTHER INFORMATION ON ACUTE TOXICITY</b>	No data available
<b>SKIN CORROSION/IRRITATION</b>	No data available
<b>SERIOUS EYE DAMAGE/EYE IRRITATION</b>	No data available
<b>RESPIRATORY OR SKIN SENSITATION</b>	No data available
<b>GERM CELL MUTAGENICITY</b>	No data available

#### CARCINOGENICITY:

**IARC:** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.  
**ACGIH:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.  
**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.  
**OSHA:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

<b>REPRODUCTIVE TOXICITY</b>	No data available
<b>TERATOGENICITY</b>	No data available
<b>SPECIFIC TARGET ORGAN TOXICITY - single exposure (Globally Harmonized System)</b>	No data available
<b>SPECIFIC TARGET ORGAN TOXICITY - repeated exposure (Globally Harmonized System)</b>	No data available
<b>ASPIRATION HAZARD</b>	No data available
<b>ADDITIONAL INFORMATION</b>	RTECS: No data available
<b>POTENTIAL HEALTH EFFECTS</b>	
<b>SIGNS AND SYMPTOMS OF EXPOSURE</b>	No data available
<b>SYNERGISTIC EFFECTS</b>	No data available

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### SECTION 12: ECOLOGICAL INFORMATION

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<b>TOXICITY</b>	No data available
<b>PERSISTANCE AND DEGRADABILITY</b>	No data available
<b>BIODEGRADATION</b>	No data available
<b>MOBILITY IN SOIL</b>	No data available

# MATERIAL SAFETY DATA SHEET

## PBS Buffer (Phosphate Buffered Saline)

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### PBT and vPvB ASSESSMENT

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### OTHER ADVERSE EFFECTS

No data available

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### SECTION 13: DISPOSAL CONSIDERATIONS

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#### PRODUCT

Do not dispose product into sewage. Consult local, state or national regulation for proper disposal.

#### CONTAMINATED PACKAGING

Dispose of as unused product.

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### SECTION 14: TRANSPORT INFORMATION

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#### DOT (US)

Not dangerous goods

#### IMDG

Not dangerous goods

#### IATA

Not dangerous goods

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### SECTION 15: REGULATORY INFORMATION

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#### OSHA HAZARDS

No data available

#### SARA 302 COMPONENTS

SARA 302: No chemicals found.

#### SARA 313 COMPONENTS

SARA 313: No chemicals found.

#### SARA 311/312 HAZARDS

No SARA Hazards

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### SECTION 16: OTHER INFORMATION

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#### DISCLAIMER:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This material is sold for research purposes only and is not required to appear on the TSCA inventory.

The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. DeNovix Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.