

# 20X Staining Reagent #3

**TREVIGEN**<sup>®</sup> Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations  
Revision Date: 05/13/2015 Date of issue: 05/13/2015

Version: 1.0

## SECTION 1: IDENTIFICATION

### 1.1. Product Identifier

**Product Form:** Mixture

**Product Name:** 20X Staining Reagent #3

**Product Code:** 4254-200-03

### 1.2. Intended Use of the Product

No use is specified.

### 1.3. Name, Address, and Telephone of the Responsible Party

#### Company

Trevigen Inc.  
8405 Helgerman Court  
20877 Gaithersburg, MD 20877  
T 1-800-TREVIGEN

### 1.4. Emergency Telephone Number

**Emergency Number** : 301-216-2800

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the Substance or Mixture

#### Classification (GHS-US)

Acute Tox. 4 (Oral) H302

Skin Irrit. 2 H315

Eye Irrit. 2A H319

Skin Sens. 1 H317

Carc. 2 H351

STOT SE 3 H335

Aquatic Acute 3 H402

Full text of H-phrases: see section 16

### 2.2. Label Elements

#### GHS-US Labeling

#### Hazard Pictograms (GHS-US)



#### Signal Word (GHS-US)

: Warning

#### Hazard Statements (GHS-US)

: H302 - Harmful if swallowed.  
H315 - Causes skin irritation.  
H317 - May cause an allergic skin reaction.  
H319 - Causes serious eye irritation.  
H335 - May cause respiratory irritation.  
H351 - Suspected of causing cancer.  
H402 - Harmful to aquatic life.

#### Precautionary Statements (GHS-US)

: P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P261 - Avoid breathing vapors, mist, or spray.  
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P271 - Use only outdoors or in a well-ventilated area.  
P272 - Contaminated work clothing must not be allowed out of the workplace.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves, protective clothing, and eye protection.

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P301+P330+P312 - IF SWALLOWED: Rinse mouth. Call a poison center or doctor if you feel unwell.

P302+P352+P362 - IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash before reuse.

P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313 - If exposed or concerned: Get medical advice/attention.

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 - If eye irritation persists: Get medical advice/attention.

P403+P233+P405 - Store in a well-ventilated place. Keep container tightly closed. Store locked up.

P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

### 2.3. Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

**2.4. Unknown Acute Toxicity (GHS-US)** No data available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Not applicable

### 3.2. Mixture

Name	Product Identifier	% (w/w)	Classification (GHS-US)
Formaldehyde	(CAS No) 50-00-0	2.5 - 5	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation: gas), H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 2, H351 Aquatic Acute 2, H401

A range of concentration as prescribed by the Controlled Products Regulations has been used where necessary, due to varying composition.

Full text of H-phrases: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of First Aid Measures

**General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

**Inhalation:** Remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

**Skin Contact:** Remove contaminated clothing. Drench affected area with water or soap and water for at least 15 minutes. Wash contaminated clothing before reuse. Obtain medical attention if irritation develops or persists.

**Eye Contact:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

**Ingestion:** Do not induce vomiting. Rinse mouth. Seek medical attention if a large amount is swallowed.

### 4.2. Most Important Symptoms and Effects Both Acute and Delayed

**General:** Harmful if swallowed. Causes serious eye irritation. Causes skin irritation. May cause an allergic skin reaction. May cause respiratory irritation. Suspected of causing cancer.

**Inhalation:** May cause respiratory irritation. Symptoms may include: Cough, headache, sore throat, or unconsciousness.

**Skin Contact:** Causes skin irritation. Symptoms may include: Redness, pain, swelling, itching, burning, dryness, and dermatitis. May cause an allergic skin reaction.

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**Eye Contact:** Causes serious eye irritation. Symptoms may include: Redness, pain, swelling, itching, burning, tearing, and blurred vision.

**Ingestion:** Harmful if swallowed. Symptoms may include: Gastrointestinal irritation. Vomiting. Weakness. Dizziness. Headache. Nausea. Convulsions. Unconsciousness.

**Chronic Symptoms:** Suspected of causing cancer (Inhalation).

### 4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice (show the label where possible).

## SECTION 5: FIRE-FIGHTING MEASURES

### 5.1. Extinguishing Media

**Suitable Extinguishing Media:** Use extinguishing media appropriate for surrounding fire.

**Unsuitable Extinguishing Media:** Do not use a heavy water stream. Use of heavy stream of water may spread fire.

### 5.2. Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Not flammable.

**Explosion Hazard:** Product is not explosive.

**Reactivity:** Hazardous reactions will not occur under normal conditions.

### 5.3. Advice for Firefighters

**Precautionary Measures Fire:** Exercise caution when fighting any chemical fire.

**Firefighting Instructions:** Use water spray or fog for cooling exposed containers.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Hazardous Combustion Products:** Carbon oxides (CO, CO<sub>2</sub>). Formaldehyde vapours.

**Other Information:** Will decompose above 150 °C (> 300 °F) releasing formaldehyde vapors.

### Reference to Other Sections

Refer to section 9 for flammability properties.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Avoid all contact with skin, eyes, or clothing. Avoid breathing (vapor, mist, spray).

#### 6.1.1. For Non-Emergency Personnel

**Protective Equipment:** Use appropriate personal protection equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel.

#### 6.1.2. For Emergency Personnel

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

### 6.2. Environmental Precautions

Prevent entry to sewers and public waters. 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:** Clean up spills immediately and dispose of waste safely. Spills should be contained with mechanical barriers. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

### 6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for Safe Handling

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Contaminated work clothing should not be allowed out of the workplace.

### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Comply with applicable regulations.

**Storage Conditions:** Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers.

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### 7.3. Specific End Use(s)

No use is specified.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Formaldehyde (50-00-0)		
Mexico	OEL Ceiling (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup>
Mexico	OEL Ceiling (ppm)	2 ppm
USA ACGIH	ACGIH Ceiling (ppm)	0.3 ppm
USA ACGIH	ACGIH chemical category	Sensitizer,Suspected Human Carcinogen
USA OSHA	OSHA PEL (TWA) (ppm)	0.75 ppm
USA OSHA	OSHA PEL (STEL) (ppm)	2 ppm (see 29 CFR 1910.1048)
USA NIOSH	NIOSH REL (TWA) (ppm)	0.016 ppm
USA NIOSH	NIOSH REL (ceiling) (ppm)	0.1 ppm
USA IDLH	US IDLH (ppm)	20 ppm
Alberta	OEL Ceiling (mg/m <sup>3</sup> )	1.3 mg/m <sup>3</sup>
Alberta	OEL Ceiling (ppm)	1 ppm
Alberta	OEL TWA (mg/m <sup>3</sup> )	0.9 mg/m <sup>3</sup>
Alberta	OEL TWA (ppm)	0.75 ppm
British Columbia	OEL Ceiling (ppm)	1 ppm
British Columbia	OEL TWA (ppm)	0.3 ppm
Manitoba	OEL Ceiling (ppm)	0.3 ppm
New Brunswick	OEL STEL (ppm)	1.5 ppm
New Brunswick	OEL TWA (ppm)	0.5 ppm
Newfoundland & Labrador	OEL Ceiling (ppm)	0.3 ppm
Nova Scotia	OEL Ceiling (ppm)	0.3 ppm
Nunavut	OEL Ceiling (mg/m <sup>3</sup> )	2.4 mg/m <sup>3</sup>
Nunavut	OEL Ceiling (ppm)	2 ppm
Northwest Territories	OEL Ceiling (mg/m <sup>3</sup> )	2.4 mg/m <sup>3</sup>
Northwest Territories	OEL Ceiling (ppm)	2 ppm
Ontario	OEL Ceiling (ppm)	1.5 ppm
Ontario	OEL STEL (ppm)	1.0 ppm
Prince Edward Island	OEL Ceiling (ppm)	0.3 ppm
Québec	PLAFOND (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup>
Québec	PLAFOND (ppm)	2 ppm
Saskatchewan	OEL Ceiling (ppm)	0.3 ppm
Yukon	OEL Ceiling (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup>
Yukon	OEL Ceiling (ppm)	2 ppm

### 8.2. Exposure Controls

**Appropriate Engineering Controls:** Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

**Personal Protective Equipment:** Protective goggles. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.



**Materials for Protective Clothing:** Chemically resistant materials and fabrics.

**Hand Protection:** Wear chemically resistant protective gloves.

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**Eye Protection:** Chemical safety goggles.

**Skin and Body Protection:** Wear suitable protective clothing.

**Respiratory Protection:** If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.

**Environmental Exposure Controls:** Do not allow the product to be released into the environment.

**Consumer Exposure Controls:** Do not eat, drink or smoke during use.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Not available
Odor	: Not available
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: Not available
Flash Point	: Not available
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20 °C	: Not available
Relative Density	: Not available
Specific Gravity	: Not available
Solubility	: Not available
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact
Explosion Data – Sensitivity to Static Discharge	: Not expected to present an explosion hazard due to static discharge

### SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions will not occur under normal conditions.
- 10.2. Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures. Incompatible materials.
- 10.5. Incompatible Materials:** Strong acids, strong bases, strong oxidizers.
- 10.6. Hazardous Decomposition Products:** Will decompose above 150 °C (> 300° F) releasing formaldehyde vapors. Formaldehyde is a potential carcinogen and can act as a potential skin and respiratory sensitizer. Formaldehyde can also cause respiratory and eye irritation.

### SECTION 11: TOXICOLOGICAL INFORMATION

#### 11.1. Information on Toxicological Effects - Product

**Acute Toxicity:** Oral: Harmful if swallowed.

**LD50 and LC50 Data:**

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ATE US (oral)	2,000.00 mg/kg body weight

**Skin Corrosion/Irritation:** Causes skin irritation

**Serious Eye Damage/Irritation:** Causes serious eye irritation

**Respiratory or Skin Sensitization:** May cause an allergic skin reaction

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**Germ Cell Mutagenicity:** Not classified

**Teratogenicity:** Not classified

**Carcinogenicity:** Suspected of causing cancer

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** May cause respiratory irritation.

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** May cause respiratory irritation. Symptoms may include: Cough, headache, sore throat, or unconsciousness

**Symptoms/Injuries After Skin Contact:** Causes skin irritation. Symptoms may include: Redness, pain, swelling, itching, burning, dryness, and dermatitis. May cause an allergic skin reaction

**Symptoms/Injuries After Eye Contact:** Causes serious eye irritation. Symptoms may include: Redness, pain, swelling, itching, burning, tearing, and blurred vision

**Symptoms/Injuries After Ingestion:** Harmful if swallowed. Symptoms may include: Gastrointestinal irritation. Vomiting. Weakness. Dizziness. Headache. Nausea. Convulsions. Unconsciousness

**Chronic Symptoms:** Suspected of causing cancer (Inhalation)

### 11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Formaldehyde (50-00-0)	
LD50 Oral Rat	100 mg/kg
LD50 Dermal Rat	270 mg/kg
ATE US (gases)	700.00 ppmV/4h
Formaldehyde (50-00-0)	
IARC Group	1
National Toxicology Program (NTP) Status	Known Human Carcinogens.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
OSHA Specifically Regulated Carcinogen List	In OSHA Specifically Regulated Carcinogen list.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

**Ecology - General:** Harmful to aquatic life.

Formaldehyde (50-00-0)	
LC50 Fish 1	22.6 - 25.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	2 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	1510 µg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 2	11.3 - 18 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

**12.2. Persistence and Degradability** Not available

### 12.3. Bioaccumulative Potential

Formaldehyde (50-00-0)	
Log Pow	0.35 (at 25 °C)

**12.4. Mobility in Soil** Not available

### 12.5. Other Adverse Effects

**Other Information:** Avoid release to the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Sewage Disposal Recommendations:** This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

**Waste Disposal Recommendations:** Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

## SECTION 14: TRANSPORT INFORMATION

**14.1. In Accordance with DOT** Not regulated for transport

**14.2. In Accordance with IMDG** Not regulated for transport

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**14.3. In Accordance with IATA** Not regulated for transport

**14.4. In Accordance with TDG** Not regulated for transport

### SECTION 15: REGULATORY INFORMATION


#### 15.1. US Federal Regulations

<b>20X Staining Reagent #3</b>	
<b>SARA Section 311/312 Hazard Classes</b>	Immediate (acute) health hazard Delayed (chronic) health hazard
<b>Formaldehyde (50-00-0)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302 Listed on United States SARA Section 313	
<b>SARA Section 302 Threshold Planning Quantity (TPQ)</b>	500
<b>SARA Section 311/312 Hazard Classes</b>	Delayed (chronic) health hazard Immediate (acute) health hazard
<b>SARA Section 313 - Emission Reporting</b>	0.1 %

#### 15.2. US State Regulations

<b>Formaldehyde (50-00-0)</b>	
<b>U.S. - California - Proposition 65 - Carcinogens List</b>	WARNING: This product contains chemicals known to the State of California to cause cancer.
<b>Formaldehyde (50-00-0)</b>	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) List	

#### 15.3. Canadian Regulations

<b>20X Staining Reagent #3</b>	
<b>WHMIS Classification</b>	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects
	
<b>Formaldehyde (50-00-0)</b>	
Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 0.1 %	
<b>WHMIS Classification</b>	Class A - Compressed Gas Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

### SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

**Revision Date** : 05/13/2015

**Other Information** : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

#### GHS Full Text Phrases:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
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Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Carc. 2	Carcinogenicity Category 2
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H301	Toxic if swallowed
H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H331	Toxic if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H401	Toxic to aquatic life
H402	Harmful to aquatic life

### Party Responsible for the Preparation of This Document

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*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

North America GHS US 2012 & WHMIS 2