

# Extraction Solution 2

**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:** Extraction Solution 2

**Product Code:** 4850-20-02

### 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)

Flam. Liq. 4 H227

Acute Tox. 4 (Oral) H302

Acute Tox. 4 (Inhalation:vapor) H332

Eye Irrit. 2A H319

Aquatic Acute 2 H401

Full text of H-phrases: see section 16

### 2.2. Label Elements

#### GHS-US Labeling

**Hazard Pictograms (GHS-US)** :



GHS07

**Signal Word (GHS-US)** :

Warning

**Hazard Statements (GHS-US)** :

H227 - Combustible liquid.  
H302+H332 - Harmful if swallowed or if inhaled.  
H319 - Causes serious eye irritation.  
H401 - Toxic to aquatic life.

**Precautionary Statements (GHS-US)** :

P210 - Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. - No smoking.  
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.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves, protective clothing, and eye protection.  
P301+P330+P312 - IF SWALLOWED: Rinse mouth. Call a poison center or doctor if you feel unwell.  
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.

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P312 - Call a poison center or doctor if you feel unwell.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P370+P378 - In case of fire: Use appropriate media (see section 5) to extinguish.  
P403+P235 - Store in a well-ventilated place. Keep cool.  
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)
Benzyl alcohol	(CAS No) 100-51-6	98.9	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2A, H319 Aquatic Acute 2, H401
Kaolin	(CAS No) 1332-58-7	1.1	Not classified

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:** Rinse immediately with plenty of water. 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 or if inhaled. Causes serious eye irritation.

**Inhalation:** Harmful if inhaled. Symptoms may include: Dizziness. Drowsiness. Nausea. Cough, headache, sore throat, or unconsciousness.

**Skin Contact:** May cause skin irritation.

**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. nausea and vomiting, higher exposure causes unconsciousness.

**Chronic Symptoms:** None expected under normal conditions of use.

### 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:** Water spray, fog, carbon dioxide (CO<sub>2</sub>), alcohol-resistant foam, or dry chemical.

**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:** Combustible liquid.

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

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

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### 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>). Benzaldehyde.

### 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. Use only non-sparking tools. 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

**Additional Hazards When Processed:** Empty containers may contain combustible product residue.

**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.

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

**Technical Measures:** Ensure adequate ventilation. Proper grounding procedures to avoid static electricity should be followed. 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.

### 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.

Kaolin (1332-58-7)		
Mexico	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Mexico	OEL STEL (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (particulate matter containing no asbestos and <1% crystalline silica, respirable fraction)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup> (total dust)

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		5 mg/m <sup>3</sup> (respirable fraction)
<b>USA NIOSH</b>	NIOSH REL (TWA) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (total dust) 5 mg/m <sup>3</sup> (respirable dust)
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (respirable)
<b>British Columbia</b>	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (particulate matter containing no Asbestos and <1% Crystalline silica-respirable particulate)
<b>Manitoba</b>	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (particulate matter containing no Asbestos and <1% Crystalline silica-respirable fraction)
<b>New Brunswick</b>	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (particulate matter containing no Asbestos and <1% Crystalline silica, respirable fraction)
<b>Newfoundland &amp; Labrador</b>	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (particulate matter containing no Asbestos and <1% Crystalline silica-respirable fraction)
<b>Nova Scotia</b>	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (particulate matter containing no Asbestos and <1% Crystalline silica-respirable fraction)
<b>Nunavut</b>	OEL TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (respirable mass) 10 mg/m <sup>3</sup> (total mass)
<b>Northwest Territories</b>	OEL TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (respirable mass) 10 mg/m <sup>3</sup> (total mass)
<b>Ontario</b>	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (containing no Asbestos and <1% Crystalline silica-respirable)
<b>Prince Edward Island</b>	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (particulate matter containing no Asbestos and <1% Crystalline silica-respirable fraction)
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (containing no Asbestos and <1% Crystalline silica-respirable dust)
<b>Saskatchewan</b>	OEL STEL (mg/m <sup>3</sup> )	4 mg/m <sup>3</sup> (respirable fraction)
<b>Saskatchewan</b>	OEL TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (respirable fraction)
<b>Yukon</b>	OEL STEL (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>
<b>Yukon</b>	OEL TWA (mg/m <sup>3</sup> )	30 mppcf 10 mg/m <sup>3</sup>

### 8.2. Exposure Controls

**Appropriate Engineering Controls:** Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or mists below the applicable workplace exposure limits. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Take precautionary measures against static discharges. 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.

**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

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

### 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. Ignition sources. Incompatible materials.
- 10.5. Incompatible Materials:** Strong acids, strong bases, strong oxidizers.
- 10.6. Hazardous Decomposition Products:** Carbon oxides (CO, CO<sub>2</sub>). Benzaldehyde.

### SECTION 11: TOXICOLOGICAL INFORMATION

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

**Acute Toxicity:** Oral: Harmful if swallowed. Inhalation:vapour: Harmful if inhaled.

**LD50 and LC50 Data:**

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<b>ATE US (oral)</b>	1,243.68 mg/kg body weight
<b>ATE US (vapors)</b>	11.12 mg/l/4h

**Skin Corrosion/Irritation:** Not classified

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

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Teratogenicity:** Not classified

**Carcinogenicity:** Not classified

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

**Reproductive Toxicity:** Not classified

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

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** Harmful if inhaled. Symptoms may include: Dizziness. Drowsiness. Nausea. Cough, headache, sore throat, or unconsciousness

**Symptoms/Injuries After Skin Contact:** May cause skin irritation

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

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**Symptoms/Injuries After Ingestion:** Harmful if swallowed. Symptoms may include: Gastrointestinal irritation. nausea and vomiting, higher exposure causes unconsciousness

**Chronic Symptoms:** None expected under normal conditions of use

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

**LD50 and LC50 Data:**

Benzyl alcohol (100-51-6)	
LD50 Oral Rat	1230 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
LD50 Intravenous Rat	53 mg/kg
LC50 Inhalation Rat	> 4.178 mg/l/4h
ATE US (gases)	4,500.00 ppmV/4h
ATE US (vapors)	11.00 mg/l/4h
ATE US (dust, mist)	1.50 mg/l/4h
Kaolin (1332-58-7)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 5000 mg/kg

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

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

Benzyl alcohol (100-51-6)	
LC50 Fish 1	460 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	23 mg/l (Exposure time: 48 h - Species: water flea)
LC 50 Fish 2	10 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

**12.2. Persistence and Degradability** Not available

### 12.3. Bioaccumulative Potential

Benzyl alcohol (100-51-6)	
Log Pow	1.1

**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.

**Additional Information:** Container may remain hazardous when empty. Continue to observe all precautions.

## SECTION 14: TRANSPORT INFORMATION

### 14.1. In Accordance with DOT

**Proper Shipping Name** : COMBUSTIBLE LIQUID, N.O.S. (Contains Benzyl alcohol; Kaolin)

**Identification Number** : NA1993

**Packing Group** : III

**ERG Number** : 128

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

**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

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<b>SARA Section 311/312 Hazard Classes</b>	Fire hazard Immediate (acute) health hazard
<b>Benzy alcohol (100-51-6)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>Kaolin (1332-58-7)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

### 15.2. US State Regulations

<b>Benzy alcohol (100-51-6)</b>	
U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List	
<b>Kaolin (1332-58-7)</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) List	

### 15.3. Canadian Regulations

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WHMIS Classification	Class B Division 3 - Combustible Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects
 	
<b>Benzy alcohol (100-51-6)</b>	
Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List) IDL Concentration 1 %	
WHMIS Classification	Class B Division 3 - Combustible Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects
<b>Kaolin (1332-58-7)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

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. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Inhalation:vapor)	Acute toxicity (inhalation:vapor) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 4	Flammable liquids Category 4
H227	Combustible liquid
H302	Harmful if swallowed
H319	Causes serious eye irritation
H332	Harmful if inhaled
H401	Toxic to aquatic life

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### **Party Responsible for the Preparation of This Document**

Trevigen INC. 8405 Helgerman Court Gaithersburg, MD 20877 T: 301-216-2800

*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