

# Subtractive Developer

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations  
Revision Date: 08/18/2015 Date of issue: 08/18/2015

Version: 1.0

### SECTION 1: IDENTIFICATION

#### 1.1. Product Identifier

**Product Form:** Mixture

**Product Name:** Subtractive Developer

#### 1.2. Intended Use of the Product

Developer for subtractive single and 2-sided plates. For professional use only.

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

US Fluids

198 – 202 Benton Drive

East Longmeadow, MA 01028

413-525-0660

[www.us-fluids.com](http://www.us-fluids.com)

#### 1.4. Emergency Telephone Number

**Emergency Number** : CHEMTREC: 1-800-424-9300

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1. Classification of the Substance or Mixture

##### Classification (GHS-US)

Flam. Liq. 4 H227

Skin Irrit. 2 H315

Eye Irrit. 2A H319

STOT RE 2 H373

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)

: H227 - Combustible liquid.

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

H373 - May cause damage to organs through prolonged or repeated exposure.

H402 - Harmful to aquatic life.

##### Precautionary Statements (GHS-US)

: P210 - Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. - No smoking.

P260 - Do not breathe vapors, mist, or spray.

P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.

P273 - Avoid release to the environment.

P280 - Wear protective gloves, protective clothing, and eye protection.

P302+P352 - If on skin: Wash with plenty of water.

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

P314 - Get medical advice/attention if you feel unwell.

P321 - Specific treatment (see section 4 on this SDS).

P332+P313 - If skin irritation occurs: Get medical advice/attention.

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

P362 - Take off contaminated clothing and wash it before reuse.

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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, 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)
Water	(CAS No) 7732-18-5	75 - 82	Not classified
Trade Secret*		< 15	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT RE 2, H373
Benzyl alcohol	(CAS No) 100-51-6	5 - 7	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2A, H319 Aquatic Acute 2, H401
Sodium sulfite	(CAS No) 7757-83-7	2 - 2.5	Aquatic Acute 3, H402
Surfactant	Trade Secret*	1	Eye Irrit. 2A, H319

\*The specific chemical identity and/or exact percentage of composition have been withheld as a trade secret in accordance with Paragraph 1910.1200 of Title 29 of the Code of Federal Regulations.

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 where possible).

**Inhalation:** When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

**Skin Contact:** Remove contaminated clothing. Drench affected area with water for at least 15 minutes. 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:** Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

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

**General:** Causes serious eye irritation. Causes skin irritation. May cause damage to organs through prolonged or repeated exposure.

**Inhalation:** Prolonged exposure may cause irritation.

**Skin Contact:** Redness, pain, swelling, itching, burning, dryness, and dermatitis.

**Eye Contact:** Contact causes severe irritation with redness and swelling of the conjunctiva.

**Ingestion:** Ingestion may cause adverse effects.

**Chronic Symptoms:** May cause damage to organs through prolonged or repeated exposure.

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

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

## SECTION 5: FIRE-FIGHTING MEASURES

### 5.1. Extinguishing Media

**Suitable Extinguishing Media:** Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>). Water may be ineffective but water should be used to keep fire-exposed container cool.

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**Unsuitable Extinguishing Media:** Do not use a heavy water stream. A heavy water stream may spread burning liquid.

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

**Fire Hazard:** Combustible liquid.

**Explosion Hazard:** May form flammable or explosive vapor-air mixture.

**Reactivity:** Reacts violently with strong oxidizers. Increased risk of fire or explosion.

### 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. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

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

**Hazardous Combustion Products:** Oxides of Sulfur. Carbon oxides (CO<sub>2</sub>).

**Other Information:** Do not allow run-off from fire fighting to enter drains or water courses.

### 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 breathing (vapor, mist, spray). Do not get in eyes, on skin, or on clothing. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Use special care to avoid static electric charges. Avoid all contact with skin, eyes, or clothing.

#### 6.1.1. For Non-Emergency Personnel

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

**Emergency Procedures:** Evacuate unnecessary personnel. Stop leak if safe to do so.

#### 6.1.2. For Emergency Personnel

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

**Emergency Procedures:** Ventilate area. 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. Eliminate ignition sources.

### 6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

### 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. As an immediate precautionary measure, isolate spill or leak area in all directions.

**Methods for Cleaning Up:** Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill. Absorb and/or contain spill with inert material. Do not take up in combustible material such as: saw dust or cellulosic material. Use only non-sparking tools.

### 6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection. See Section 13, Disposal Considerations.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for Safe Handling

**Additional Hazards When Processed:** Handle empty containers with care because residual vapors are flammable.

**Precautions for Safe Handling:** Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid breathing vapors, mist, spray. Take precautionary measures against static discharge. Use only non-sparking tools. Avoid contact with skin, eyes and clothing.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures.

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

**Technical Measures:** Comply with applicable regulations. Take action to prevent static discharges. Ground and bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment.

**Storage Conditions:** Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store in a well-ventilated place. Keep container tightly closed. Keep in fireproof place.

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

### 7.3. Specific End Use(s)

Developer for subtractive single and 2-sided plates. For professional use only.

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### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

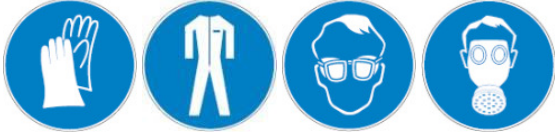
#### 8.1. Control Parameters

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.

#### 8.2. Exposure Controls

**Appropriate Engineering Controls:** Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Gas detectors should be used when flammable gases or vapors may be released. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment.

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



**Materials for Protective Clothing:** Chemically resistant materials and fabrics. Wear fire/flammable resistant/retardant clothing.

**Hand Protection:** Wear 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. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

**Other Information:** When using, do not eat, drink or smoke.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

Physical State	: Liquid
Appearance	: Amber or Clear liquid
Odor	: Mild soap
Odor Threshold	: Not available
pH	: 6.8 - 7.5
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: 101 °C (213.8 °F)
Flash Point	: 93 °C (199.4 °F)
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	: 1.065
Solubility	: Water: 100%
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	: Static discharge could act as an ignition source.

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### SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Reacts violently with strong oxidizers. Increased risk of fire or explosion.
- 10.2. Chemical Stability:** Combustible liquid. May form flammable or explosive vapor-air mixture.
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, heat, hot surfaces, sparks, open flames, incompatible materials, and other ignition sources.
- 10.5. Incompatible Materials:** Strong acids, strong bases, strong oxidizers.
- 10.6. Hazardous Decomposition Products:** Oxides of Sulfur. Carbon oxides (CO<sub>2</sub>).

### SECTION 11: TOXICOLOGICAL INFORMATION

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

**Acute Toxicity:** Not classified

**LD50 and LC50 Data:** Not available

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

**pH:** 6.8 - 7.5

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

**pH:** 6.8 - 7.5

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Teratogenicity:** Not available

**Carcinogenicity:** Not classified

**Specific Target Organ Toxicity (Repeated Exposure):** May cause damage to organs through prolonged or repeated exposure.

**Reproductive Toxicity:** Not classified

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

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** Prolonged exposure may cause irritation.

**Symptoms/Injuries After Skin Contact:** Redness, pain, swelling, itching, burning, dryness, and dermatitis.

**Symptoms/Injuries After Eye Contact:** Contact causes severe irritation with redness and swelling of the conjunctiva.

**Symptoms/Injuries After Ingestion:** Ingestion may cause adverse effects.

**Chronic Symptoms:** May cause damage to organs through prolonged or repeated exposure.

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

**LD50 and LC50 Data:**

<b>Sodium sulfite (7757-83-7)</b>	
LD50 Oral Rat	3560 mg/kg
LD50 Dermal Rat	> 2000 mg/kg (Species: Wistar)
LC50 Inhalation Rat	> 22 mg/l (Exposure time: 1 h)
<b>Surfactant</b>	
LD50 Oral Rat	1870 µl/kg
<b>Benzyl alcohol (100-51-6)</b>	
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
<b>Sodium sulfite (7757-83-7)</b>	
IARC Group	3

### SECTION 12: ECOLOGICAL INFORMATION

#### 12.1. Toxicity

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

<b>Surfactant</b>	
LC50 Fish 1	1.8 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)

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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])
ErC50 (algae)	770 mg/l

### 12.2. Persistence and Degradability

Subtractive Developer	
Persistence and Degradability	Not established.

### 12.3. Bioaccumulative Potential

Subtractive Developer	
Bioaccumulative Potential	Not established.

Sodium sulfite (7757-83-7)	
Log Pow	-4 (at 25 °C)

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

**Waste Disposal Recommendations:** Dispose of contents/container in accordance with local, regional, national, and international regulations

**Additional Information:** Handle empty containers with care because residual vapors are flammable.

**Ecology – Waste Materials:** Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

## SECTION 14: TRANSPORT INFORMATION

### 14.1. In Accordance with DOT

Proper Shipping Name : COMBUSTIBLE LIQUID, N.O.S. (Benzyl alcohol)

Identification Number : NA1993

Packing Group : III

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

Subtractive Developer	
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard

Water (7732-18-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Sodium sulfite (7757-83-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Surfactant	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Benzyl alcohol (100-51-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

### 15.2. US State Regulations



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<b>Benzyl alcohol (100-51-6)</b>
U.S. - Massachusetts - Right To Know List
U.S. - Pennsylvania - RTK (Right to Know) List

### 15.3. Canadian Regulations

<b>Subtractive Developer</b>	
WHMIS Classification	Class B Division 3 - Combustible Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects
 	

<b>Water (7732-18-5)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

<b>Sodium sulfite (7757-83-7)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

<b>Surfactant</b>	
Listed on the Canadian DSL (Domestic Substances List)	
Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 1 %	

<b>Benzyl 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

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** : 08/18/2015  
**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 (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
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 4	Flammable liquids Category 4
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H227	Combustible liquid
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H373	May cause damage to organs through prolonged or repeated exposure

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H401	Toxic to aquatic life
H402	Harmful to aquatic life

### Party Responsible for the Preparation of This Document

US Fluids

413-525-0660

*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.*

NA GHS SDS