Safety Data Sheet

Cat. # 786-12XT

CB-X™ Protein Assay

Size: 10 Assays
SECTION 1: Identification

1.1. Identification
Product form: Mixture
Product name: CB-X
Product code: 113C
Formula: C3H6O
Synonyms: 2-propanon / 2-propanone / acetone / acetone NF / acetone oil / Al3-01238 / Caswell No.004 / chevron acetone / dimethyl formaldehyde / dimethyl ketone / dimethylketal / Dimethylketon / DMK (=dimethyl ketone) / FEMA No 3326 / ketone propane / KTI acetone / methyl acetyl / pyroacetic acid / pyroacetic ether / pyroacetic spirit / STEC 4908105
BIG No: 10001

1.2. Recommended use and restrictions on use
Use of the substance/mixture: Solvent
Cleansing product
Chemical raw material

1.3. Supplier
Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132-1429 - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number
Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS US classification
Flammable liquids Category 2
H225 - Highly flammable liquid and vapour
Serious eye damage/eye irritation Category 2
H319 - Causes serious eye irritation
Specific target organ toxicity (single exposure) Category 3
H336 - May cause drowsiness or dizziness
Full text of H statements: see section 16

2.2. GHS Label elements, including precautionary statements
GHS US labeling
Hazard pictograms (GHS US): 

Signal word (GHS US): Danger

Hazard statements (GHS US): H225 - Highly flammable liquid and vapour
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness

Precautionary statements (GHS US): P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical/ventilating/lighting equipment
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep 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.  
P312 - Call a poison center or doctor if you feel unwell.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P312 - Call a poison center or doctor if you feel unwell.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P403+P235 - Store in a well-ventilated place. Keep cool.  
P405 - Store locked up.  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Common Name (Synonyms)</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>acetone</td>
<td>2-propanone / 2-propanone / acetone / acetone NF / acetone oil / AI5-01238 / Caswell No.004 / chevron acetone / dimethyl formaldehyde / dimethyl ketone / dimethylketal / Dimethylketon / DMK (=dimethyl ketone) / FEMA No 3326 / ketone propane / KTI acetone / methyl acetyl / pyroacetic acid / pyroacetic ether / pyroacetic spirit / STEC 4908105 (CAS-No.)</td>
<td>67-64-1</td>
<td>&gt;= 80</td>
<td>Flam. Liq. 2, H225</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2, H319</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H336</td>
</tr>
<tr>
<td>chloroform</td>
<td>1,1,1-trichloromethane / chloroform / formyl trichloride / freon 20 / methane trichloride / methane, trichloro / methenyl chloride / methenyl trichloride / methyl trichloride / R 20 refrigerant / R20 / TCM (=trichloromethane) / trichloroform / trichloromethane (CAS-No.)</td>
<td>67-66-3</td>
<td>&lt; 0.05</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>Acute Tox. 3 (Inhalation), H331</td>
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<tr>
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<td>Skin Irrit. 2, H315</td>
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<td></td>
<td>Eye Irrit. 2, H319</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Carc. 2, H351</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>STOT RE 1, H372</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2, H319</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H336</td>
</tr>
<tr>
<td>hydrogen chloride, conc=36%, aqueous solution</td>
<td>(Note B)</td>
<td>(CAS-No.) 7647-01-0</td>
<td>&lt; 0.05</td>
<td>Skin Cor. 1A, H314</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H335</td>
</tr>
</tbody>
</table>
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Note B: Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labeling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: ‘nitric acid … %’. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.

Full text of hazard classes and H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures


First-aid measures after inhalation: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact: Wash immediately with lots of water. Soap may be used. Do not apply (chemical) neutralizing agents. Remove clothing before washing. Take victim to a doctor if irritation persists.

First-aid measures after eye contact: Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.


4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms: Odour tolerance may develop. Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Repeated exposure may cause skin dryness or cracking. Non-toxic in contact with skin (LD50 skin > 5000 mg/kg). May cause drowsiness or dizziness. Non-toxic by inhalation (LC50 inh, rat > 50 mg/l/4h). Slightly irritant to respiratory organs. Causes serious eye irritation.

Symptoms/effects: May cause drowsiness or dizziness.


Symptoms/effects after skin contact: ON CONTINUOUS EXPOSURE/CONTACT: Dry skin. Cracking of the skin.

Symptoms/effects after eye contact: Irritation of the eye tissue.


4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


Unsuitable extinguishing media: Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

5.2. Specific hazards arising from the chemical

Fire hazard: DIRECT FIRE HAZARD: Highly flammable liquid and vapour. Gas/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD: May be ignited by sparks. Gas/vapour spreads at floor level; ignition hazard. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard: DIRECT EXPLOSION HAZARD: Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD: Heat may cause pressure rise in tanks/drums: explosion risk. may be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard".

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5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Cool tanks/drum with water spray/Remove them into safety. Physical explosion risk: extinguish/cool from behind cover. Do not move the load if exposed to heat. After cooling: persistent risk of physical explosion.


SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel


6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleaned empty containers as full ones. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over spills. Keep container tightly closed.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Storage temperature : 15 - 20 °C

Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. reducing agents. (strong) acids. (strong) bases. halogens. amines.

Storage area : Store in a cool area. Keep out of direct sunlight. Store in a dry area. Store in a dark area.

Ventilation at floor level. Fireproof storeroom. Provide for an automatic sprinkler system. Provide for a tub to collect spills. Provide the tank with earthing. Meet the legal requirements.

Special rules on packaging : SPECIAL REQUIREMENTS: closing, with pressure relief valve. clean, opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
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Packaging materials
SUITABLE MATERIAL: steel, stainless steel, carbon steel, aluminium, iron, copper, nickel, bronze, glass.
MATERIAL TO AVOID: synthetic material.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>CB-X</th>
<th>USA - ACGIH - Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ACGIH TWA (ppm)</td>
</tr>
<tr>
<td></td>
<td>250 ppm</td>
</tr>
<tr>
<td></td>
<td>ACGIH STEL (ppm)</td>
</tr>
<tr>
<td></td>
<td>500 ppm</td>
</tr>
</tbody>
</table>

acetone (67-64-1)

<table>
<thead>
<tr>
<th>USA - ACGIH - Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH TWA (ppm)</td>
</tr>
<tr>
<td>250 ppm</td>
</tr>
<tr>
<td>ACGIH STEL (ppm)</td>
</tr>
<tr>
<td>500 ppm</td>
</tr>
</tbody>
</table>

chloroform (67-66-3)

<table>
<thead>
<tr>
<th>USA - ACGIH - Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH TWA (ppm)</td>
</tr>
<tr>
<td>10 ppm</td>
</tr>
</tbody>
</table>

hydrogen chloride, conc=36%, aqueous solution (7647-01-0)

No additional information available

2-propanol (67-63-0)

<table>
<thead>
<tr>
<th>USA - ACGIH - Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH TWA (ppm)</td>
</tr>
<tr>
<td>200 ppm</td>
</tr>
<tr>
<td>ACGIH STEL (ppm)</td>
</tr>
<tr>
<td>400 ppm</td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls

Appropriate engineering controls: Ensure good ventilation of the work station.
Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing:
GIVE GOOD RESISTANCE: butyl rubber, tetrafluoroethylene. GIVE LESS RESISTANCE: chlorosulfonated polyethylene, natural rubber, neoprene, polyurethane. PVA, styrene-butadiene rubber. GIVE POOR RESISTANCE: nitrile rubber, polyethylene. PVC, viton. nitrile rubber/PVC

Hand protection:
Gloves

Eye protection:
Safety glasses

Skin and body protection:
Head/neck protection. Protective clothing

Respiratory protection:
Full face mask with filter type AX at conc. in air > exposure limit

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid
Appearance: Liquid.
Color: Colourless
Odor: Aromatic odour Sweet odour Fruity odour
Odor threshold: No data available
pH: 7 (10 g/l)
Melting point: -95 °C
Freezing point: No data available
### Boiling point
- \(56 \, ^\circ\text{C}\)

### Critical temperature
- \(235 \, ^\circ\text{C}\)

### Critical pressure
- \(47010 \, \text{hPa}\)

### Flash point
- \(-17 \, ^\circ\text{C}\) (Closed cup)

### Relative evaporation rate (butyl acetate=1)
- 6

### Relative evaporation rate (ether=1)
- 2

### Flammability (solid, gas)
- Not applicable.

### Vapor pressure at 50 °C
- \(828 \, \text{hPa}\)

### Relative vapor density at 20 °C
- 2

### Relative density
- 0.79

### Relative density of saturated gas/air mixture
- 1.2

### Specific gravity / density
- 786 kg/m³

### Molecular mass
- 58.08 g/mol

### Solubility

### Log Pow
- \(-0.24\) (Test data)

### Auto-ignition temperature
- 465 °C

### Decomposition temperature
- No data available

### Viscosity, kinematic
- 0.417 mm²/s

### Viscosity, dynamic
- No data available

### Explosion limits
- 2 - 12.8 vol %
  - Lower explosive limit (LEL): 2 vol %
  - UEL: 12.8 vol %

### Explosive properties
- No data available

### Oxidizing properties
- No data available

### Other information

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity
Violent to explosive reaction with many compounds. Prolonged storage: on exposure to light: release of harmful gases/vapours.

#### 10.2. Chemical stability
Unstable on exposure to light.

#### 10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid
Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

#### 10.5. Incompatible materials
No additional information available

#### 10.6. Hazardous decomposition products
Hazardous decomposition products.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects
Acute toxicity (oral) : Not classified
### CB-X

#### Acute toxicity (dermal)
- Not classified

#### Acute toxicity (inhalation)
- Not classified

---

#### LD50 oral rat
5800 mg/kg (Equivalent or similar to OECD 401, Rat, Female, Experimental value, Oral)

#### LD50 dermal rabbit
20000 mg/kg (Equivalent or similar to OECD 402, Rabbit, Male, Experimental value, Dermal)

#### LC50 inhalation rat (mg/l)
76 mg/l (Other, 4 h, Rat, Female, Experimental value, Inhalation (vapours))

#### ATE US (oral)
5800 mg/kg body weight

#### ATE US (dermal)
20000 mg/kg body weight

#### ATE US (vapors)
76 mg/l/4h

#### ATE US (dust, mist)
76 mg/l/4h

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### acetone (67-64-1)

#### LD50 oral rat
5800 mg/kg (Equivalent or similar to OECD 401, Rat, Female, Experimental value, Oral)

#### LD50 dermal rabbit
20000 mg/kg (Equivalent or similar to OECD 402, Rabbit, Male, Experimental value, Dermal)

#### LC50 inhalation rat (mg/l)
76 mg/l (Other, 4 h, Rat, Female, Experimental value, Inhalation (vapours))

#### ATE US (oral)
5800 mg/kg body weight

#### ATE US (dermal)
20000 mg/kg body weight

#### ATE US (vapors)
76 mg/l/4h

#### ATE US (dust, mist)
76 mg/l/4h

---

### chloroform (67-66-3)

#### LD50 oral rat
908 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male, Experimental value, Oral)

#### LD50 dermal rabbit
> 3980 mg/kg body weight (24 h, Rabbit, No reliable data available, Dermal)

#### ATE US (oral)
500 mg/kg body weight

#### ATE US (gases)
700 ppmV/4h

#### ATE US (vapors)
3 mg/l/4h

#### ATE US (dust, mist)
0.5 mg/l/4h

---

### 2-propanol (67-63-0)

#### LD50 oral rat
5840 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Experimental value, Oral, 14 day(s))

#### LD50 dermal rabbit
16400 ml/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Experimental value, Dermal, 14 day(s))

#### LC50 inhalation rat (ppm)
> 10000 ppm (Equivalent or similar to OECD 403, 6 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))

#### ATE US (oral)
5840 mg/kg body weight

#### ATE US (dermal)
16400000 mg/kg body weight

---

### Skin corrosion/irritation
- Not classified

#### pH
- 7 (10 g/l)

### Serious eye damage/irritation
- Causes serious eye irritation.

#### pH
- 7 (10 g/l)

---

### Respiratory or skin sensitization
- Not classified

### Germ cell mutagenicity
- Not classified

### Carcinogenicity
- Not classified

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### chloroform (67-66-3)

#### National Toxicology Program (NTP) Status
Reasonably anticipated to be Human Carcinogen

### Reproductive toxicity
- Not classified

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### Specific target organ toxicity – single exposure
- May cause drowsiness or dizziness.

---

### acetone (67-64-1)

### Specific target organ toxicity – single exposure
- May cause drowsiness or dizziness.

---

### hydrogen chloride, conc=36%, aqueous solution (7647-01-0)

### Specific target organ toxicity – single exposure
- May cause respiratory irritation.
### 2-propanol (67-63-0)

| Specific target organ toxicity – single exposure | May cause drowsiness or dizziness. |
| Specific target organ toxicity – repeated exposure | Not classified |

### chloroform (67-66-3)

| Specific target organ toxicity – repeated exposure | Causes damage to organs through prolonged or repeated exposure. |

| Aspiration hazard | Not classified |
| Viscosity, kinematic | 0.417 mm²/s |

**Potential Adverse human health effects and symptoms**

| Symptoms/effects after inhalation | May cause drowsiness or dizziness. |
| Symptoms/effects after skin contact | ON CONTINUOUS EXPOSURE/CONTACT: Dry skin. Cracking of the skin. |
| Symptoms/effects after eye contact | Irritation of the eye tissue. |

**Chronic symptoms**


### SECTION 12: Ecological information

#### 12.1. Toxicity

**Ecology - general**

| LC50 fish 1 | 5540 mg/l (EU Method C.1, 96 h, Salmo gairdneri, Static system, Fresh water, Experimental value, Nominal concentration) |

**Ecology - air**

| LC50 fish 1 | 5540 mg/l (EU Method C.1, 96 h, Salmo gairdneri, Static system, Fresh water, Experimental value, Nominal concentration) |

**Ecology - water**

| LC50 fish 1 | 0.0024 mg/l (LC50; ASTM; 96 h; Oncorhynchus mykiss; Flow-through system; Fresh water; Experimental value) |
| ErC50 (algae) | 13.3 mg/l (Other, 72 h, Chlamydomonas reinhardtii, Static system, Fresh water, Experimental value) |

**chloroform (67-66-3)**

| LC50 fish 1 | 0.0024 mg/l (LC50; ASTM; 96 h; Oncorhynchus mykiss; Flow-through system; Fresh water; Experimental value) |
| ErC50 (algae) | 13.3 mg/l (Other, 72 h, Chlamydomonas reinhardtii, Static system, Fresh water, Experimental value) |

**hydrogen chloride, conc=36%, aqueous solution (7647-01-0)**

| LC50 fish 1 | 282 mg/l (96 h, Gambusia affinis, Pure substance) |
| EC50 Daphnia 1 | < 56 mg/l (72 h, Daphnia magna, Pure substance) |

**2-propanol (67-63-0)**

| LC50 fish 1 | 9640 - 10000 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal) |
### 12.2. Persistence and degradability

**CB-X**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Persistence and degradability</strong></td>
<td>Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water.</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>1.43 g O₂/g substance</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>1.92 g O₂/g substance</td>
</tr>
<tr>
<td>ThOD</td>
<td>2.2 g O₂/g substance</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
<td>0.872 (20 day(s), Literature study)</td>
</tr>
</tbody>
</table>

**acetone (67-64-1)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Persistence and degradability</strong></td>
<td>Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water.</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>1.43 g O₂/g substance</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>1.92 g O₂/g substance</td>
</tr>
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<td>ThOD</td>
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</tr>
<tr>
<td>BOD (% of ThOD)</td>
<td>0.872 (20 day(s), Literature study)</td>
</tr>
</tbody>
</table>

**chloroform (67-66-3)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Persistence and degradability</strong></td>
<td>Non degradable in the soil. Not readily biodegradable in water.</td>
</tr>
<tr>
<td>ThOD</td>
<td>0.33 - 1.35 g O₂/g substance</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
<td>0.015 - 0.06</td>
</tr>
</tbody>
</table>

**hydrogen chloride, conc=36%, aqueous solution (7647-01-0)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chemical oxygen demand (COD)</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>ThOD</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>BOD (% of ThOD)</strong></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

**2-propanol (67-63-0)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Persistence and degradability</strong></td>
<td>Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water.</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>1.19 g O₂/g substance</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>2.23 g O₂/g substance</td>
</tr>
<tr>
<td>ThOD</td>
<td>2.4 g O₂/g substance</td>
</tr>
</tbody>
</table>

### 12.3. Bioaccumulative potential

**CB-X**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
<td>0.69 (Pisces)</td>
</tr>
<tr>
<td>BCF other aquatic organisms 1</td>
<td>3 (BCFWIN, Calculated value)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>-0.24 (Test data)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Not bioaccumulative.</td>
</tr>
</tbody>
</table>

**acetone (67-64-1)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
<td>0.69 (Pisces)</td>
</tr>
<tr>
<td>BCF other aquatic organisms 1</td>
<td>3 (BCFWIN, Calculated value)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>-0.24 (Test data)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Not bioaccumulative.</td>
</tr>
</tbody>
</table>

**chloroform (67-66-3)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
<td>4.1 - 13 (OECD 305: Bioconcentration: Flow-Through Fish Test, 42 day(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>1.97 (Experimental value, 20 °C)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Low potential for bioaccumulation (BCF &lt; 500).</td>
</tr>
</tbody>
</table>

**hydrogen chloride, conc=36%, aqueous solution (7647-01-0)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>0.25 (QSAR)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Low potential for bioaccumulation (Log Kow &lt; 4).</td>
</tr>
</tbody>
</table>

**2-propanol (67-63-0)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>0.05 (Weight of evidence approach, 25 °C)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Low potential for bioaccumulation (Log Kow &lt; 4).</td>
</tr>
</tbody>
</table>
12.4. Mobility in soil

<table>
<thead>
<tr>
<th>Substance</th>
<th>Surface tension</th>
<th>Ecology - soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB-X</td>
<td>0.0237 N/m</td>
<td>No (test)data on mobility of the substance available.</td>
</tr>
<tr>
<td>acetone (67-64-1)</td>
<td>0.0237 N/m</td>
<td>No (test)data on mobility of the substance available.</td>
</tr>
<tr>
<td>chloroform (67-66-3)</td>
<td>0.0271 N/m (20 °C)</td>
<td>Low potential for adsorption in soil. May be harmful to plant growth, blooming and fruit formation.</td>
</tr>
<tr>
<td>hydrogen chloride, conc=36%, aqueous solution (7647-01-0)</td>
<td></td>
<td>No (test)data on mobility of the components available. May be harmful to plant growth, blooming and fruit formation.</td>
</tr>
<tr>
<td>2-propanol (67-63-0)</td>
<td>0.021 N/m (25 °C)</td>
<td>Highly mobile in soil.</td>
</tr>
</tbody>
</table>

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods


Product/Packaging disposal recommendations: Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Incinerate under surveillance with energy recovery.


SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description: UN1090 Acetone, 3, II

UN-No.(DOT): UN1090

Proper Shipping Name (DOT): Acetone

Class (DOT): 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Packing group (DOT): II - Medium Danger

Hazard labels (DOT): 3 - Flammable liquid

DOT Packaging Non Bulk (49 CFR 173.xxx): 202

DOT Packaging Bulk (49 CFR 173.xxx): 242
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DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.

T4 - 2.65 178.274(d)(2) Normal............. 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

DOT Vessel Stowage Location : B - (i) The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the greater of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) “On deck only” on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

Emergency Response Guide (ERG) Number : 127

Other information : No supplementary information available.

Transportation of Dangerous Goods

Transport by sea

Transport document description (IMDG) : UN 1090 acetone, 3, II
UN-No. (IMDG) : 1090
Proper Shipping Name (IMDG) : acetone
Class (IMDG) : 3 - Flammable liquids
Packing group (IMDG) : II - substances presenting medium danger
EmS-No. (1) : F-E
EmS-No. (2) : S-D

Air transport

Transport document description (IATA) : UN 1090 Acetone, 3, II
UN-No. (IATA) : 1090
Proper Shipping Name (IATA) : Acetone
Class (IATA) : 3 - Flammable Liquids
Packing group (IATA) : II - Medium Danger

SECTION 15: Regulatory information

15.1: US Federal regulations

acetone (67-64-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Not subject to reporting requirements of the United States SARA Section 313

CERCLA RO 5000 lb

chloroform (67-66-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

CERCLA RO 10 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists) 10 lb
SARA Section 302 Threshold Planning Quantity (TPQ) 10000 lb
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<table>
<thead>
<tr>
<th>Substance</th>
<th>CERCLA RQ</th>
<th>RQ (Reportable quantity, section 304 of EPA's List of Lists)</th>
<th>SARA Section 302 Threshold Planning Quantity (TPQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>hydrogen chloride, conc=36%, aqueous solution (7647-01-0)</td>
<td>5000 lb</td>
<td>5000 lb</td>
<td>500 lb</td>
</tr>
<tr>
<td>2-propanol (67-63-0)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15.2. International regulations

**CANADA**

acetone (67-64-1)
Listed on the Canadian DSL (Domestic Substances List)

chloroform (67-66-3)
Listed on the Canadian DSL (Domestic Substances List)

hydrogen chloride, conc=36%, aqueous solution (7647-01-0)
Listed on the Canadian DSL (Domestic Substances List)

2-propanol (67-63-0)
Listed on the Canadian DSL (Domestic Substances List)

**EU-Regulations**

National regulations

chloroform (67-66-3)
Listed on IARC (International Agency for Research on Cancer)
Listed as carcinogen on NTP (National Toxicology Program)

15.3. US State regulations

<table>
<thead>
<tr>
<th>Substance</th>
<th>U.S. - California - Proposition 65 - Carcinogens List</th>
<th>U.S. - California - Proposition 65 - Developmental Toxicity</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</th>
<th>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</th>
<th>No significant risk level (NSRL)</th>
<th>Maximum allowable dose level (MADL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>chloroform (67-66-3)</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**SECTION 16: Other information**

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 05/11/2017
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Full text of H-phrases:

<table>
<thead>
<tr>
<th>H</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H225</td>
<td>Highly flammable liquid and vapour</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H331</td>
<td>Toxic if inhaled</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
<tr>
<td>H336</td>
<td>May cause drowsiness or dizziness</td>
</tr>
<tr>
<td>H351</td>
<td>Suspected of causing cancer</td>
</tr>
<tr>
<td>H372</td>
<td>Causes damage to organs through prolonged or repeated exposure</td>
</tr>
</tbody>
</table>

NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.

SDS US (GHS HazCom 2012)

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.
SECTION 1: Identification

1.1. Identification

Product form: Mixture
Product name: CB-X Assay Dye
Product code: 119C

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132 - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification
Flammable liquids Category 4 H227 Combustible liquid
Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling
Signal word (GHS US): Warning
Hazard statements (GHS US): H227 - Combustible liquid
Precautionary statements (GHS US): 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+P378 - In case of fire: Use media other than water to extinguish.
P403+P235 - Store in a well-ventilated place. Keep cool.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Common Name (Synonyms)</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>phosphoric acid, conc=85% (Note B)</td>
<td>orthophosphoric acid, conc=85% / phosphoric syrup, conc=85% / phosphoric-acid-</td>
<td>(CAS-No.) 7664-38-2</td>
<td>10 - 50</td>
<td>Skin Corr. 1B, H314</td>
</tr>
</tbody>
</table>
### CB-X Assay Dye

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<table>
<thead>
<tr>
<th>Name</th>
<th>Common Name (Synonyms)</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coomassie Brilliant Blue G 250 Dye</td>
<td>acid blue 90 / benzemethanaminium, N[4-[(4-ethoxyphenyl)amino]phenyl][4-ethyl][3-sulfophenyl][methylene]-2-methylene][methylene]-3-methyl-2,5-cyclohexadien-1-ylidene]-N-ethyl-3-sulfo-hydroxide, inner salt, monosodium salt / brilliant blue G / brilliant blue G 250</td>
<td>(CAS-No.) 6104-58-1</td>
<td>&lt; 0.05</td>
<td>Skin Irrit. 2, H315, Eye Irrit. 2, H319, STOT SE 3, H335</td>
</tr>
</tbody>
</table>

Note B : Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: ‘nitric acid … %’. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.

Full text of hazard classes and H-statements : see section 16

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

- **First-aid measures after inhalation**: Remove person to fresh air and keep comfortable for breathing.
- **First-aid measures after skin contact**: Wash skin with plenty of water.
- **First-aid measures after eye contact**: Rinse eyes with water as a precaution.
- **First-aid measures after ingestion**: Call a poison center/doctor/physician if you feel unwell.

#### 4.2. Most important symptoms and effects (acute and delayed)

No additional information available

#### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

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

#### 5.2. Specific hazards arising from the chemical

- **Fire hazard**: Combustible liquid.
- **Reactivity in case of fire**: Thermal decomposition generates : Corrosive vapors.

#### 5.3. Special protective equipment and precautions for fire-fighters

- **Protection during firefighting**: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Emergency procedures: Ventilate spillage area. No open flames, no sparks, and no smoking.

6.1.2. For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: “Exposure controls/personal protection”.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Store in a well-ventilated place. Keep cool.
Storage temperature: 20 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>CB-X Assay Dye</th>
<th>No additional information available</th>
</tr>
</thead>
<tbody>
<tr>
<td>phosphoric acid, conc=85% (7664-38-2)</td>
<td>No additional information available</td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls
Appropriate engineering controls: Ensure good ventilation of the work station.
Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection: Protective gloves
Eye protection: Safety glasses
Skin and body protection: Wear suitable protective clothing
**Respiratory protection:**

In case of insufficient ventilation, wear suitable respiratory equipment

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>65 °C</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Hazardous decomposition products.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
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### methanol (67-56-1)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>1187 - 2769 mg/kg body weight (BASF test, Rat, Male / female, Weight of evidence, Aqueous solution, Oral, 7 day(s))</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>17100 mg/kg (Rabbit, Inconclusive, insufficient data, Dermal)</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>128.2 mg/l air (BASF test, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours))</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>100 mg/kg body weight</td>
</tr>
<tr>
<td>ATE US (dermal)</td>
<td>17100 mg/kg body weight</td>
</tr>
<tr>
<td>ATE US (gases)</td>
<td>700 ppmV/4h</td>
</tr>
<tr>
<td>ATE US (vapors)</td>
<td>3 mg/l/4h</td>
</tr>
<tr>
<td>ATE US (dust, mist)</td>
<td>0.5 mg/l/4h</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

### Specific target organ toxicity – single exposure

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>methanol (67-56-1)</td>
<td>Causes damage to organs.</td>
</tr>
</tbody>
</table>

### Coomassie Brilliant Blue G 250 Dye (6104-58-1)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific target organ toxicity – single exposure</td>
<td>May cause respiratory irritation.</td>
</tr>
</tbody>
</table>

### Specific target organ toxicity – repeated exposure

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

### Specific target organ toxicity – single exposure

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>methanol (67-56-1)</td>
<td>Causes damage to organs.</td>
</tr>
</tbody>
</table>

### Coomassie Brilliant Blue G 250 Dye (6104-58-1)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific target organ toxicity – single exposure</td>
<td>May cause respiratory irritation.</td>
</tr>
</tbody>
</table>

### Specific target organ toxicity – repeated exposure

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
</tbody>
</table>

## SECTION 12: Ecological information

### 12.1. Toxicity

**Ecology - general**: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>phosphoric acid, conc=85% (7664-38-2)</td>
<td></td>
</tr>
<tr>
<td>LC50 fish 1</td>
<td>138 mg/l (Pisces, Pure substance)</td>
</tr>
</tbody>
</table>

### 12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>phosphoric acid, conc=85% (7664-38-2)</td>
<td></td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>Biodegradability: not applicable.</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>ThOD</td>
<td>Not applicable</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

### methanol (67-56-1)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Readily biodegradable in the soil. Readily biodegradable in water.</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>0.6 - 1.12 g O₂/g substance</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>1.42 g O₂/g substance</td>
</tr>
</tbody>
</table>
methanol (67-56-1)
ThOD 1.5 g O₂/g substance

Coomassie Brilliant Blue G 250 Dye (6104-58-1)
Persistence and degradability

12.3. Bioaccumulative potential
phosphoric acid, conc=85% (7664-38-2)
Bioaccumulative potential
Does not contain bioaccumulative component(s).

methanol (67-56-1)
BCF fish 1 1 - 4.5 (72 h, Cyprinus carpio, Static system, Fresh water, Experimental value)
Log Pow -0.77 (Experimental value)
Bioaccumulative potential
Low potential for bioaccumulation (BCF < 500).

Coomassie Brilliant Blue G 250 Dye (6104-58-1)
Bioaccumulative potential
No bioaccumulation data available.

12.4. Mobility in soil
phosphoric acid, conc=85% (7664-38-2)
Ecology - soil
No (test)data on mobility of the components available.

methanol (67-56-1)
Surface tension 0.023 N/m (20 °C)
Log Koc 0.088 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil
Highly mobile in soil.

12.5. Other adverse effects
No additional information available

SECTION 13: Disposal considerations
13.1. Disposal methods
Waste treatment methods
: Waste treatment methods.

SECTION 14: Transport information
Department of Transportation (DOT)
In accordance with DOT
Other information
: No supplementary information available.

Transportation of Dangerous Goods
Transport by sea
Not regulated
Air transport
Not regulated

SECTION 15: Regulatory information
15.1. US Federal regulations
phosphoric acid, conc=85% (7664-38-2)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory
Not subject to reporting requirements of the United States SARA Section 313
CERCLA RQ 5000 lb
CB-X Assay Dye
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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>methanol (67-56-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td>Subject to reporting requirements of United States SARA Section 313</td>
</tr>
<tr>
<td>Listed on EPA Hazardous Air Pollutant (HAPS)</td>
</tr>
<tr>
<td>CERCLA RQ</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coomassie Brilliant Blue G 250 Dye (6104-58-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
</tbody>
</table>

### 15.2. International regulations

#### CANADA

<table>
<thead>
<tr>
<th>methanol (67-56-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the Canadian DSL (Domestic Substances List)</td>
</tr>
</tbody>
</table>

#### EU-Regulations

**National regulations**

No additional information available

### 15.3. US State regulations

<table>
<thead>
<tr>
<th>methanol (67-56-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. - California - Proposition 65 - Carcinogens List</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Developmental Toxicity</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maximum allowable dose level (MADL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>47000 µg/day (inhalation); 23,000 µg/day (oral)</td>
</tr>
</tbody>
</table>

### SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 09/20/2017

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H225</th>
<th>Highly flammable liquid and vapour</th>
</tr>
</thead>
<tbody>
<tr>
<td>H227</td>
<td>Combustible liquid</td>
</tr>
<tr>
<td>H301</td>
<td>Toxic if swallowed</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H331</td>
<td>Toxic if inhaled</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
<tr>
<td>H370</td>
<td>Causes damage to organs</td>
</tr>
</tbody>
</table>

SDS US (GHS HazCom 2012)

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.
SECTION 1: Identification

1.1. Identification
Product form: Mixture
Product name: CB-X Solubilization Buffer I
Product code: 127C

1.2. Recommended use and restrictions on use
No additional information available

1.3. Supplier
Geno Technology, Inc./G-Biosciences
9800 Page Avenue
Saint Louis, 63132 - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number
Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS US classification
- Acute toxicity (oral) Category 3: H301 - Toxic if swallowed
- Skin corrosion/irritation Category 2: H315 - Causes skin irritation
- Serious eye damage/eye irritation Category 1: H318 - Causes serious eye damage
- Hazardous to the aquatic environment - Acute Hazard Category 1: H400 - Very toxic to aquatic life
- Hazardous to the aquatic environment - Chronic Hazard Category 3: H412 - Harmful to aquatic life with long lasting effects

Full text of H statements: see section 16

2.2. GHS Label elements, including precautionary statements
GHS US labeling
- Hazard pictograms (GHS US):
- Signal word (GHS US): Danger
- Hazard statements (GHS US):
  - H301 - Toxic if swallowed
  - H315 - Causes skin irritation
  - H318 - Causes serious eye damage
  - H400 - Very toxic to aquatic life
  - H412 - Harmful to aquatic life with long lasting effects
- Precautionary statements (GHS US):
  - P264 - Wash hands, forearms and face thoroughly after handling.
  - P270 - Do not eat, drink or smoke when using this product.
  - P273 - Avoid release to the environment.
  - P280 - Wear protective gloves/protective clothing/eye protection/face protection.
  - P301+P310 - If swallowed: Immediately call a poison center or doctor
  - 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
  - P310 - Immediately call a poison center or doctor
  - P321 - Specific treatment (see supplemental first aid instruction on this label)
  - P330 - Rinse mouth.
  - P332+P313 - If skin irritation occurs: Get medical advice/attention.
  - P362+P364 - Take off contaminated clothing and wash it before reuse.
  - P391 - Collect spillage.
  - P405 - Store locked up.
  - P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification
No additional information available
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2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Common Name (Synonyms)</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>copper(II) sulfate, pentahydrate</td>
<td>blue copper / blue coppers / blue stone / blue viking / blue vitriol / chalcantite / chalcanthite, natural / copper sulfate, pentahydrate / copper sulphate, pentahydrate / copper vitriol / copper(2+) sulfate, pentahydrate / copperose bleue / CSP (=copper(II)sulfate, pentahydrate) / cupric sulfate, pentahydrate / Environmentally hazardous substance, solid, n.o.s. / phyto-bordeaux (=copper(II)sulfate, pentahydrate) / phyton-27 (=copper(II)sulfate, pentahydrate) / roman vitriol (=copper(II)sulfate, pentahydrate) / sulfacop / sulfuric acid, copper(2+) salt (1:1), pentahydrate / sulfuric acid, copper(II)salt, pentahydrate / triangle (=copper(II)sulfate, pentahydrate) / vencedor</td>
<td>(CAS-No.) 7758-99-8</td>
<td>2 - 5</td>
<td>Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Acute 1, H400 Aquatic Chronic 1, H410</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general: Call a physician immediately.
First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation: AFTER INHALATION OF DUST/MIST: Dry/sore throat. Coughing. ON HEATING: Metal fume fever.
Symptoms/effects after skin contact: Tingling/irritation of the skin. Burns. Irritation.
Symptoms/effects after eye contact: Serious damage to eyes.
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Symptoms/effects after ingestion: Burns.

4.3. Immediate medical attention and special treatment, if necessary
Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

5.2. Specific hazards arising from the chemical
Fire hazard: DIRECT FIRE HAZARD: Non combustible. INDIRECT FIRE HAZARD: Reactions involving a fire hazard: see "Reactivity Hazard".
Explosion hazard: DIRECT EXPLOSION HAZARD: No data available on direct explosion hazard. INDIRECT EXPLOSION HAZARD: No data available on indirect explosion hazard.
Reactivity in case of fire: Reacts on exposure to water (moisture) with (some) metals. On burning: release of toxic and corrosive gases/vapours (sulphur oxides) and formation of metallic fumes. Reacts violently with (strong) reducers. Thermal decomposition generates: Corrosive vapors.

5.3. Special protective equipment and precautions for fire-fighters
Precautionary measures fire: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions: Dilute toxic gases with water spray. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.
Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Measures in case of dust release: In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

6.1.2. For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
For containment: Collect spillage.
Methods for cleaning up: Take up liquid spill into absorbent material.
Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Ensure good ventilation of the work station. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Avoid raising dust. Keep away from naked flames/heat. Observe strict hygiene. Keep container tightly closed. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Avoid contact with skin and eyes. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray.
Hygiene measures: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store locked up. Store in a well-ventilated place. Keep cool.
Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources.
Information on mixed storage: KEEP SUBSTANCE AWAY FROM: reducing agents. (strong) bases. water/moisture.
Storage area: Store in a dry area. Keep container in a well-ventilated place. Meet the legal requirements. Keep out of direct sunlight.
Special rules on packaging: SPECIAL REQUIREMENTS: hermetical. watertight. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials: SUITABLE MATERIAL: No data available. MATERIAL TO AVOID: No data available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>CB-X Solubilization Buffer I</th>
<th>No additional information available</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium hydroxide (1310-73-2)</td>
<td>USA - ACGIH - Occupational Exposure Limits</td>
</tr>
<tr>
<td>ACGIH Ceiling (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>copper(II) sulfate, pentahydrate (7758-99-8)</td>
<td>No additional information available</td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls

Appropriate engineering controls: Ensure good ventilation of the work station.
Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing:
GIVE GOOD RESISTANCE: butyl rubber. PVC. viton

Hand protection:
Gloves

Eye protection:
Safety glasses

Skin and body protection:
Protective clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing

Respiratory protection:
Dust production: dust mask with filter type P2. Dust production: dust mask with filter type P3

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Blue</td>
</tr>
<tr>
<td>Odor</td>
<td>Odourless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
</tbody>
</table>
CB-X Solubilization Buffer I

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Flammability (solid, gas) : Not applicable.
Vapor pressure : No data available
Relative vapor density at 20 °C : No data available
Relative density : No data available
Solubility : Soluble in water. Soluble in methanol. Soluble in glycerol.
Log Pow : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosion limits : No data available
Explosive properties : No data available
Oxidizing properties : No data available

9.2. Other information
VOC content : Not applicable
Other properties : Hygroscopic. Acid reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity
Reacts on exposure to water (moisture) with (some) metals. On burning: release of toxic and corrosive gases/vapours (sulphur oxides) and formation of metallic fumes. Reacts exothermically with (some) compounds: (increased) risk of fire. Reacts violently with (strong) reducers.

10.2. Chemical stability
Hygroscopic.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral) : Toxic if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

<table>
<thead>
<tr>
<th>CB-X Solubilization Buffer I</th>
<th>LD50 oral rat</th>
<th>300 mg/kg (Rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 2000 mg/kg (Rabbit)</td>
<td></td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>300 mg/kg body weight</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>copper(II) sulfate, pentahydrate (7758-99-8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
</tr>
<tr>
<td>ATE US (oral)</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
# CB-X Solubilization Buffer I

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<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reproductive toxicity</td>
<td>: Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity – single exposure</td>
<td>: Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity – repeated exposure</td>
<td>: Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>: Not classified</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>: No data available</td>
</tr>
<tr>
<td>Symptoms/effects after inhalation</td>
<td>: AFTER INHALATION OF DUST/MIST: Dry/sore throat. Coughing. ON HEATING: Metal fume fever.</td>
</tr>
<tr>
<td>Symptoms/effects after skin contact</td>
<td>: Tingling/irritation of the skin. Burns. Irritation.</td>
</tr>
<tr>
<td>Symptoms/effects after eye contact</td>
<td>: Serious damage to eyes.</td>
</tr>
<tr>
<td>Symptoms/effects after ingestion</td>
<td>: Burns.</td>
</tr>
</tbody>
</table>

## SECTION 12: Ecological information

### 12.1. Toxicity

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50 fish 1</th>
<th>EC50 Daphnia 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB-X Solubilization Buffer I</td>
<td>1.5 mg/l (24 h; Lepomis macrochirus; TOXICITY TEST)</td>
<td>40.4 mg/l (48 h, Ceriodaphnia sp., Experimental value, Nominal concentration)</td>
</tr>
<tr>
<td>sodium hydroxide (1310-73-2)</td>
<td>0.17 mg/l 24 h; Salmo gairdneri (Oncorhynchus mykiss)</td>
<td>45.4 mg/l (96 h, Salmo gairdneri, Static system, Fresh water, Experimental value, Solution &gt;=50%)</td>
</tr>
<tr>
<td>copper(II) sulfate, pentahydrate (7758-99-8)</td>
<td>3.8 ppm (24 h; Salmo gairdneri (Oncorhynchus mykiss); Fresh water)</td>
<td>40.4 mg/l (48 h, Ceriodaphnia sp., Experimental value, Nominal concentration)</td>
</tr>
</tbody>
</table>

### 12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Substance</th>
<th>Biochemical oxygen demand (BOD)</th>
<th>Chemical oxygen demand (COD)</th>
<th>ThOD</th>
<th>BOD (% of ThOD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB-X Solubilization Buffer I</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>sodium hydroxide (1310-73-2)</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>copper(II) sulfate, pentahydrate (7758-99-8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Substance</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB-X Solubilization Buffer I</td>
<td>Bioaccumulative.</td>
</tr>
<tr>
<td>sodium hydroxide (1310-73-2)</td>
<td></td>
</tr>
<tr>
<td>copper(II) sulfate, pentahydrate (7758-99-8)</td>
<td></td>
</tr>
</tbody>
</table>
# CB-X Solubilization Buffer I

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<table>
<thead>
<tr>
<th>Substance</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium hydroxide (1310-73-2)</td>
<td>Not bioaccumulative.</td>
</tr>
<tr>
<td>copper(II) sulfate, pentahydrate (7758-99-8)</td>
<td>Bioaccumable.</td>
</tr>
</tbody>
</table>

## 12.4. Mobility in soil

<table>
<thead>
<tr>
<th>Substance</th>
<th>Ecology - soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB-X Solubilization Buffer I</td>
<td>Toxic to flora.</td>
</tr>
<tr>
<td>sodium hydroxide (1310-73-2)</td>
<td>No (test) data on mobility of the substance available.</td>
</tr>
<tr>
<td>copper(II) sulfate, pentahydrate (7758-99-8)</td>
<td>Toxic to flora.</td>
</tr>
</tbody>
</table>

## 12.5. Other adverse effects

No additional information available

---

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

- **Waste treatment methods**: Waste treatment methods.
- **Product/Packaging disposal recommendations**: Remove waste in accordance with local and/or national regulations. Recycle/reuse. Precipitate/make insoluble. Remove to an authorized dump (Class I). Do not discharge into the sewer.
- **Additional information**: LWCA (the Netherlands): KGA category 05. Hazardous waste according to Directive 2008/98/EC.

## SECTION 14: Transport information

**Department of Transportation (DOT)**

In accordance with DOT

Not regulated

**Transportation of Dangerous Goods**

- **Transport by sea**: Not regulated
- **Air transport**: Not regulated

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

<table>
<thead>
<tr>
<th>Substance</th>
<th>Not listed on the United States TSCA (Toxic Substances Control Act) inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium hydroxide (1310-73-2)</td>
<td></td>
</tr>
<tr>
<td>copper(II) sulfate, pentahydrate (7758-99-8)</td>
<td></td>
</tr>
</tbody>
</table>

Not subject to reporting requirements of the United States SARA Section 313

<table>
<thead>
<tr>
<th>CERCLA RQ</th>
<th>1000 lb</th>
</tr>
</thead>
</table>

### 15.2. International regulations

**CANADA**

**EU-Regulations**
CB-X Solubilization Buffer I
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National regulations
No additional information available

15.3. US State regulations

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 05/11/2017

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H-number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H290</td>
<td>May be corrosive to metals</td>
</tr>
<tr>
<td>H301</td>
<td>Toxic if swallowed</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life</td>
</tr>
<tr>
<td>H402</td>
<td>Harmful to aquatic life</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects</td>
</tr>
<tr>
<td>H412</td>
<td>Harmful to aquatic life with long lasting effects</td>
</tr>
</tbody>
</table>

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 2 - Materials that readily undergo violent chemical change at elevated temperatures and pressures.

SDS US (GHS HazCom 2012)

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.
### SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : CB-X Solubilization Buffer II
Product code : 133C

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132-1429 - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number : Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

### SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification
Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labelling
No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

### SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

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CB-X Solubilization Buffer II
Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Name</th>
<th>Common Name (Synonyms)</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
</table>


## CB-X Solubilization Buffer II

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Name</th>
<th>Common Name (Synonyms)</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
</table>
CB-X Solubilization Buffer II
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of hazard classes and H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact: Wash skin with plenty of water.
First-aid measures after eye contact: Rinse eyes with water as a precaution.
First-aid measures after ingestion: Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures: Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: “Exposure controls/personal protection”.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Take up liquid spill into absorbent material.
Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| CB-X Solubilization Buffer II | No additional information available |
| sodium dodecyl sulphate (151-21-3) | No additional information available |
CB-X Solubilization Buffer II
Safety Data Sheet

8.2. Appropriate engineering controls
Appropriate engineering controls: Ensure good ventilation of the work station.
Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
- Physical state: Liquid
- Color: No data available
- Odor: No data available
- Odor threshold: No data available
- pH: No data available
- Melting point: Not applicable
- Freezing point: No data available
- Boiling point: No data available
- Flash point: No data available
- Relative evaporation rate (butyl acetate=1): No data available
- Flammability (solid, gas): Not applicable
- Vapor pressure: No data available
- Relative vapor density at 20 °C: No data available
- Relative density: No data available
- Solubility: No data available
- Log Pow: No data available
- Auto-ignition temperature: No data available
- Decomposition temperature: No data available
- Viscosity, kinematic: No data available
- Viscosity, dynamic: No data available
- Explosion limits: No data available
- Explosive properties: No data available
- Oxidizing properties: No data available

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.
10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Acute toxicity (oral)</th>
<th>Not classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

**sodium dodecyl sulphate (151-21-3)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>1200 mg/kg body weight (OECD 401: acute oral toxicity, rat, male/female, experimental value, oral, 14 day(s))</td>
</tr>
<tr>
<td>LD50 dermal rat</td>
<td>&lt; 2000 mg/kg (rat; literature study)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 2000 mg/kg body weight (equivalent or similar to OECD 402, 24 h, rabbit, male/female, read-across, dermal, 14 day(s))</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>1200 mg/kg body weight</td>
</tr>
<tr>
<td>ATE US (dermal)</td>
<td>1100 mg/kg body weight</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Not classified
Respiratory or skin sensitization: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
Specific target organ toxicity – single exposure: Not classified
Specific target organ toxicity – repeated exposure: Not classified
Aspiration hazard: Not classified
Viscosity, kinematic: No data available

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

12.2. Persistence and degradability

**sodium dodecyl sulphate (151-21-3)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Readily biodegradable in water.</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

**sodium dodecyl sulphate (151-21-3)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
<td>3.9 - 5.3 (72 h, Cyprinus carpio)</td>
</tr>
<tr>
<td>BCF fish 2</td>
<td>7.15 (pisces, chronic)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>&lt;= -2.03 (calculated, OECD 107: partition coefficient (n-octanol/water): shake flask method, 20 °C)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Not bioaccumulative.</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

**sodium dodecyl sulphate (151-21-3)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface tension</td>
<td>0.0252 N/m (23 °C, 1 g/l, EU method A.5: surface tension)</td>
</tr>
</tbody>
</table>
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According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>sodium dodecyl sulphate (151-21-3)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Koc</td>
<td>1.545 (log Koc, SRC PCKOCWIN v2.0, Experimental value)</td>
</tr>
<tr>
<td>Ecology - soil</td>
<td>Highly mobile in soil.</td>
</tr>
</tbody>
</table>

12.5. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT
Not regulated

Transportation of Dangerous Goods

Transport by sea
Not regulated

Air transport
Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

<table>
<thead>
<tr>
<th>sodium dodecyl sulphate (151-21-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
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</tbody>
</table>

15.2. International regulations

CANADA

EU-Regulations

National regulations
No additional information available

15.3. US State regulations

SECTION 16: Other information

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 05/11/2017

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H302</th>
<th>Harmful if swallowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>H312</td>
<td>Harmful in contact with skin</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
</tbody>
</table>
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.